British Columbia's Heartland At the Dawn of the 21st Century

2001 Economic Dependencies and Impact Ratios for 63 Local Areas

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Preface

This report was prepared to provide economists in the province of British Columbia with up-to-date consistent information on the local economies in the rural areas of the province and to help in the estimation of the economic impacts of changes in those local economies. It is the latest in a series of reports that use data from the Canadian Census and other sources.

This work was made possible by funding provided by the Ministries of Forests, Sustainable Resource Management, Competition, Science and Enterprise, and Health. Each of these ministries has a unique way of looking at the province, and as part of this study comparable statistics that provide dependencies and impact ratios for the geographical breakouts of interest to these ministries have been specially prepared for them.

An early draft of this report was reviewed by interested personnel in BC Stats and the client ministries and their comments helped to shape the final product. However, any errors, incoherence, or other shortcomings that remain are the full responsibility of the author.

Abstract

This report presents economic information about 63 local areas in the province of British Columbia. Specifically, it provides tables and maps that identify and quantify the sources of income that support the local economies in each of those areas. In addition, it presents ratios that economists can use to estimate the impacts on employment and income of changes in those sources. The local areas cover the entire province with the exception of the greater Vancouver area.

The results in the report rely on an economic base perspective and detailed information from the 2001 Census of Canada, and other sources. Changes in the results during the period 1991 - 1996 - 2001 are presented and discussed. Use of the tables in this report for estimating economic impacts is illustrated by a number of examples. Appendices provide additional analysis and information that may be valuable for regional studies.

1. Introduction

This report is the latest in a series of reports that have utilized Census and other economic data to focus on local areas throughout the province of British Columbia. This report is based primarily on data resulting from the 2001 Canadian Census. Similar earlier reports were based on the 1991 [1][1] and 1996 [2] Censuses.

The fundamental geographical unit used for this study is the Census Subdivision (CSD). There were 527 such areas defined in British Columbia at the time of the 2001 Census; of these 210 were Indian Reserves. Because many Indian Reserves are very small, data for these CSD's were aggregated for each Regional District. The local areas defined in this study are typically aggregates of several CSD's, often a town and its surrounding "catchment" area. The body of this report identifies and reports on the same 63 local areas as the previous two studies. These local areas are like the pieces of a jigsaw puzzle in the sense that they cover the entire province without any overlapping. (Needless to say, particularly in the north some of these local areas are very large, but sparsely populated.) The local areas have sometimes been referred to as Economic Dependency Areas (EDA's) in this report. The precise components of each EDA are tabulated in Appendix E.

As in previous studies we have not presented results for most of the GVRD, primarily because some of the methodological assumptions made in this work do not seem entirely appropriate for a major metropolitan area like Vancouver.

There are two kinds of results that come out of a study like this. They may be thought of as *descriptive* and *operational*. The descriptive measures use the statistics available to describe each community in terms of its dependence on various basic sectors, its diversity, its vulnerability to downturns in the forest sector, and so on. In addition, now that we have three consecutive studies carried out with pretty much the same methodology and local area definitions, we are in a good position to describe and comment on changes and trends in those measures and what they can tell us about the various local economies in British Columbia heading into the 21st century.

On the other hand, the operational results are numbers for each community that can be used to estimate the impacts of anticipated or proposed changes in the basic sectors. They are presented in this report

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[1] Numbers in square brackets denote references that can be found listed on Page 51 of this report.

as an aid to answering "what if...?" questions. In this report some fresh examples of the use of these numbers are presented.

This report is organized somewhat differently from previous reports – the primary focus now is on the results, what they mean, and how to use them. Readers interested in methodological issues or on how the various data sources were used to arrive at the results reported here are referred to earlier reports and/or the appendices of this report where some of these issues are discussed in appropriate detail.

Chapter 2 presents and discusses the descriptive results as described above. Chapter 3 presents tables of employment impact ratios and discusses how to use them. Chapter 4 describes and discusses the changes that appear to have occurred over the period that these studies have been done. Appendices to the report describe methodological issues and discuss in some detail some of the more challenging aspects of this work.

2. The Descriptive Results for 2001

2.1 Income Dependencies

The fundamental premise of this work is that the economy of a community can be represented by income flows that can be classified as *basic* or *nonbasic*, depending on where the money comes from. Below, the concepts of basic and nonbasic incomes are defined. A graphical presentation of the model is displayed in Figure 2.1.

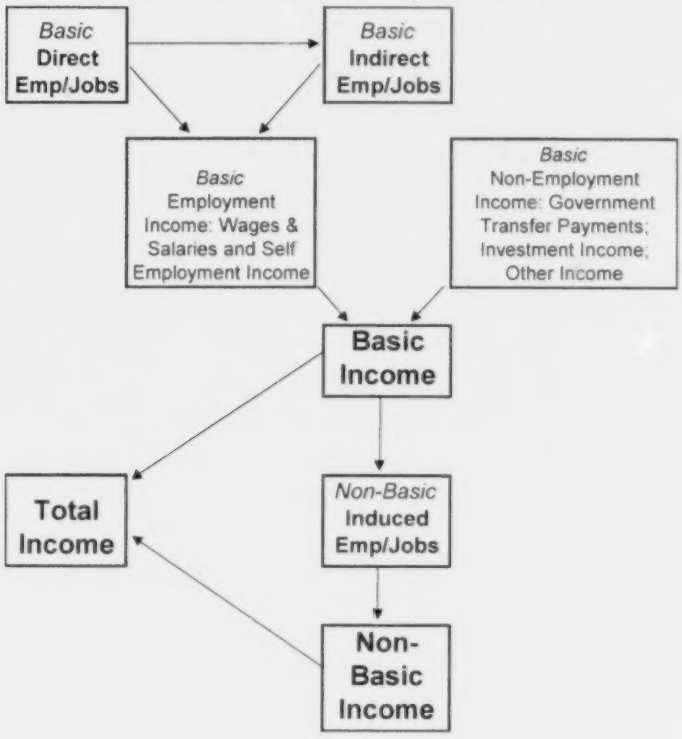
2.1.1 Basic Income

Basic income is defined as income that flows into the community from the outside world, in the form of either *employment* income or *non-employment* income.

Basic employment income flows into a community in the form of wages and salaries or self-employed income, from the following three sources:

1) From jobs that produce goods and services that are exported elsewhere.
2) From jobs that produce goods and services for the tourist sector (outsiders who spend money in the community that was earned elsewhere), or
3) From jobs in the public sector, for example, health care workers, teachers, government employees, etc., who receive their employment income from senior governments, and not directly from the local residents.

Figure 2.1 Simplified Model Flow Diagram


Basic Direct Emp/Jobs
Basic Indirect Emp/Jobs
Basic Employment Income: Wages & Salaries and Self Employment Income
Basic Non-Employment Income: Government Transfer Payments; Investment Income; Other Income
Basic Income
Total Income
Non-Basic Induced Emp/Jobs
Non-Basic Income

Jobs that are considered to generate basic employment income are in the following 10 sectors[2]:

- Forestry and associated manufacturing
- Mining and associated manufacturing
- Fishing and Trapping and associated manufacturing
- Agriculture and Food & Beverage Manufacturing
- Tourism
- High Technology
- Public Sector
- Construction
- Film Production and Sound Recording
- Other, which includes any direct basic activities that could not be allocated to any of the other categories[3] plus all income generated from businesses supplying goods and services to these 10 basic sectors (referred to elsewhere in this paper as basic *indirect employment*).

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[2] See Appendix A.3 for the list of industry groupings (NAICS) that are included in each of these basic industries.

[3] See Appendix C.3 for more information.

Basic non-employment income is all income that flows into the community that is not employment income. In the model it is aggregated into two groups:

- Transfer Payments from senior governments, such as welfare payments, Old Age Security pensions, Guaranteed Income Supplements, Canada Pension Plan, Employment Insurance benefits, Federal Child Tax benefits and other income from government sources.
- Other Non-Employment Income that includes investment income, such as dividends and interest; retirement pensions, superannuation, annuities, alimony, etc.

These 10 industrial groupings plus the 2 groups of non-employment income are the 12 categories used to delineate the economic dependencies of communities.

2.1.2 Nonbasic Income (Also called Nonbasic Employment Income or Induced Employment Income)

Nonbasic income is employment income generated from jobs in the community that provide goods and services to individuals who live in the community. These jobs are often referred to as nonbasic jobs or induced employment. Examples of these include much of retail trade, local transportation services, local financial services, and personal services – local dry cleaners, barbershops and hairdressers.

Nonbasic activities, and the people engaged in them, are just as important to a modern community as the basic activities – indeed, it's arguable that they are the "glue" that holds a community together and makes it differ from a work-camp where individuals come to work and leave whenever they are not working. Nevertheless, there is a real sense that the nonbasic sector is dependent on a healthy basic sector, because without the latter the former would not exist. It is this view that makes the income dependencies presented in this section of the report different from a simple percentage breakdown of income by source for each community.

Income dependencies for the 63 local areas in 2001 are displayed in Table 2.1. The premise of Table 2.1 is that each dollar of basic community income is uniquely allocated either to one of the basic industries or to a non-employment income source. Thus the industry definitions for the column headings of this table are quite broadly defined to include not only resource extraction, but also any downstream processing that occurs locally, and also any indirect activities that are purchased locally. In Table 2.1 non-employment income is displayed in 2 columns – government transfer payments, and Other Non-Employment Income.

Table 2.1
Percent Income Dependencies (After Tax Incomes, 2001)

	Forestry	Mining & Min Proc	Fish-ing	Agric. & Food	Tourism	High Tech	Public Sector	Const	Film Prod	Other	Trans.Pay-ments	Other non-emp inc
VANCOUVER ISLAND/COAST												
1 Gulf Islands	1	0	1	2	7	2	18	9	2	5	20	32
2 Victoria	1	0	0	1	6	4	41	4	0	6	16	20
3 Sooke-Port Renfrew	3	0	2	1	6	1	42	8	0	9	18	11
4 Duncan	18	1	0	2	4	1	26	5	0	5	19	18
5 Lake Cowichan	31	0	0	1	5	0	22	4	0	1	23	14
6 Ladysmith	19	0	1	2	3	2	25	4	0	5	22	17
7 Nanaimo	11	0	1	1	5	2	28	5	0	9	21	18
8 Parksville-Qualicum	8	1	1	1	7	0	18	7	0	4	25	27
9 Alberni	31	0	2	2	8	0	22	3	0	2	18	12
10 Courtenay-Comox	11	1	2	3	6	0	30	5	0	3	20	18
11 Campbell River	29	4	2	2	7	0	20	5	0	2	16	11
12 Bute Inlet	5	3	12	3	11	0	22	7	0	2	18	17
13 Powell River	27	2	1	1	4	0	19	4	0	2	21	17
14 Alert Bay	8	0	15	1	8	1	32	4	0	1	24	6
15 Port Hardy	49	1	4	2	8	0	19	1	0	0	10	5
16 Central Coast	13	0	7	1	6	0	39	5	0	1	22	5
MAINLAND/SOUTHWEST (Excluding GVRD)												
17 Hope-Fraser Canyon	14	2	0	1	11	0	22	7	2	5	25	11
18 Chilliwack	6	1	0	7	4	0	28	7	0	11	21	15
19 Kent-Harrison	6	1	0	6	12	1	28	6	0	5	21	13
20 Matsqui-Abbottsford	8	1	0	11	2	1	26	9	0	13	18	12
21 Pitt Meadows-Maple Ridge	7	2	0	3	2	3	29	10	1	19	14	10
22 Mission	12	1	0	6	3	1	27	9	1	12	18	10
23 Sunshine Coast	19	1	2	1	5	1	21	7	0	3	20	19
24 Squamish	12	1	0	0	29	1	21	11	1	7	9	7
25 Lillooet	20	0	1	3	6	0	32	7	0	6	16	9
THOMPSON-OKANAGAN												
26 Princeton	28	1	0	1	5	0	18	6	0	2	25	14
27 Oliver-Osoyoos	6	1	0	12	6	0	17	4	0	3	33	18
28 Penticton	5	2	0	3	6	0	26	5	0	6	25	20
29 Ashcroft	18	8	0	6	8	0	18	5	0	4	22	12
30 Merritt	24	5	0	4	6	0	27	5	0	1	20	8
31 Kamloops	10	6	0	2	6	0	29	6	0	10	18	13
32 North Thompson	39	1	0	2	8	0	15	4	0	2	17	11
33 Peachland	5	3	0	3	6	2	22	7	0	11	21	19
34 Kelowna	5	1	0	5	6	2	24	7	0	12	20	18
35 Vernon	10	1	0	3	6	1	24	6	0	11	23	16
36 Spallumcheen	13	2	0	9	3	0	19	8	1	8	23	14
37 Salmon Arm	11	2	0	3	6	1	18	8	0	9	24	19
38 Golden	25	1	0	1	17	0	16	8	0	10	14	8
39 Revelstoke	21	0	0	0	16	0	17	5	1	14	15	11

Table 2.1 (cont)
Percent Income Dependencies (After Tax Incomes, 2001)

	Forestry	Mining & Min Proc	Fish-ing	Agric. & Food	Tourism	High Tech	Public Sector	Const	Film Prod	Other	Trans. Pay-ments	Other non-emp inc
KOOTENAY												
40 Fernie	8	41	0	1	9	1	15	4	0	1	12	8
41 Cranbrook-Kimberley	14	9	0	1	8	0	25	6	0	5	18	14
42 Invermere	18	2	0	1	17	0	18	14	0	1	14	15
43 Castlegar-Arrow Lakes	25	6	0	0	3	1	23	9	0	3	18	13
44 Nelson	13	2	0	1	7	2	30	8	0	2	19	15
45 Creston	10	2	0	7	5	0	23	5	0	2	29	16
46 Grand Forks-Greenwood	25	1	0	4	6	0	20	5	0	3	23	13
47 Trail-Rossland	4	29	0	0	3	0	23	4	0	4	18	15
CARIBOO												
48 Williams Lake	30	2	0	3	6	0	24	6	0	3	16	9
49 Quesnel	43	1	0	2	5	0	21	3	0	2	16	8
50 Prince George	31	1	0	1	4	1	28	6	0	7	13	8
51 McBride-Valemount	30	0	0	2	15	1	18	4	0	5	16	10
NORTH COAST												
52 Queen Charlotte Island	33	0	4	1	7	0	30	5	0	4	11	6
53 Prince Rupert	23	0	11	0	6	0	30	3	0	3	18	5
54 Kitimat-Terrace	19	20	0	0	5	0	26	6	0	4	13	7
55 Hazelton	29	3	1	1	3	0	32	2	0	0	24	5
56 Stewart	9	7	3	0	5	0	41	6	0	2	22	5
NECHAKO												
57 Smithers-Houston	34	5	0	3	5	1	26	4	0	2	12	7
58 Burns Lake	37	1	0	2	5	0	25	5	0	1	15	10
59 Vanderhoof	44	5	0	2	2	0	21	5	0	1	14	5
60 Stikine	2	4	1	0	8	0	42	20	0	3	14	6
NORTHEAST												
61 Dawson Creek	16	17	0	5	4	0	25	6	0	6	15	6
62 Fort St. John	7	32	0	4	6	0	19	10	0	7	10	5
63 Ft. Nelson	31	19	0	1	8	0	17	6	0	7	6	4

Map 2.1, Dominant Basic Sectors, shows the basic sector that provides the most basic income in each local area. While this depiction indicates the leading basic sector in each area it can be potentially misleading because it does not distinguish between areas that have one dominant sector and those that have two or more strong industries. Invermere, for example, has an apparent tie between Forestry and the Public Sector (the latter "wins" only by examining the dependencies to more decimal places (17.8 to 17.7)) with Tourism and Construction not very far behind. Local areas that do not have a dominant sector should score well on the Diversity Index - see Table 2.3, Map 2.5, and the accompanying discussion later in this chapter.

The remaining maps in this section show the dependence of each area in British Columbia on a particular sector for the major sectors of Forestry (2.2), Mining & Mineral Processing (2.3) and Tourism (2.5). The darker the shading, the more dependent the area is on that sector.

2.2 The Diversity of Local Economies

Though a community with one dominant industry may be better off than one with a number of smaller ones, there is an intuitive appeal to the notion that a diversified economic base will provide more community stability in volatile economic times.

To address this issue and quantify it for application in British Columbia, the local area economic dependencies were used to construct a diversity index (DI) using the following formula:

$$DI = 100 \times \frac{SDMAX - SD}{SDMAX}$$

Where:

SD is the standard deviation of the 11 dependency values[4] for each local area,

SDMAX is the standard deviation for the least diversified case possible - an area that is 100% dependent on a single sector.

Observe that the diversity index would be zero if the area were entirely dependent on one sector (because SD = SDMAX for this case). At the other extreme, the diversity index would be 100 if a local area were equally dependent on each of the defined sectors (because then SD = 0)[5].

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[4] For the purpose of calculating the diversity index Film Prod was considered part of Other to make comparisons with Diversity Indexes for 1991 and 1996 more meaningful.

[5] Readers familiar with the Herfindahl Index of Concentration (HI) should note that the measures are equivalent in the sense that DI will be high when HI is low and vice versa, if allowance is made for the fact that in our case only basic income sources are used for the calculation rather than all industries.

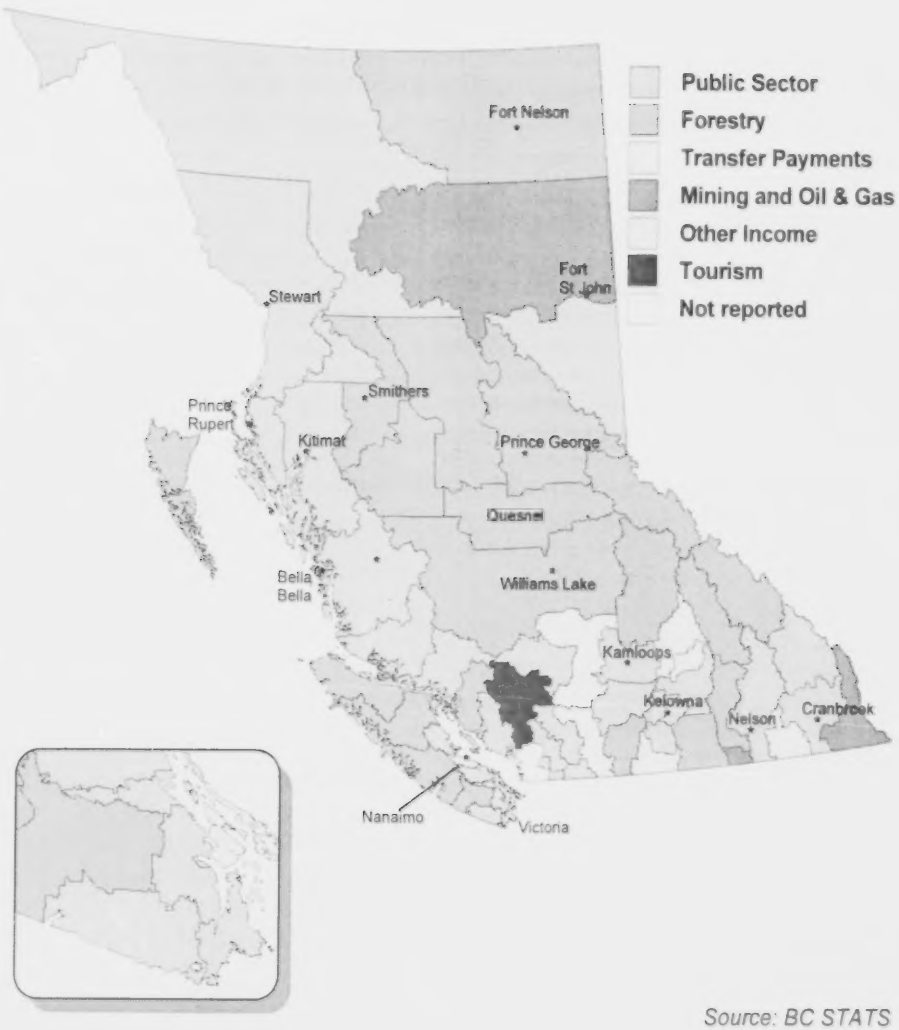
In practice the calculated diversity indices for B. C. communities tend to lie between 50 and 75.

The calculated diversity indices are given in Table 2.3 and displayed geographically in Map 2.5. The local areas having the most and least diversified economies in 2001 (by this measure) are tabulated below in Table 2.2.

Table 2.2 Local Areas with Most and Least Diversified Economies, 2001

Most Diversified Areas	Least Diversified Areas
Ashcroft Area 76	Port Hardy Area 52
Bute Inlet Area 75	Vanderhoof Area 56
Spallumcheen Area 75	Quesnel Area 57
Cranbrook-Kimberley Area 74	Victoria Area 58
Invermere Area 74	Stikine Area 58
Dawson Creek Area 74	

Map 2.1 Dominant Income Sources



Source: BC STATS
November 2003

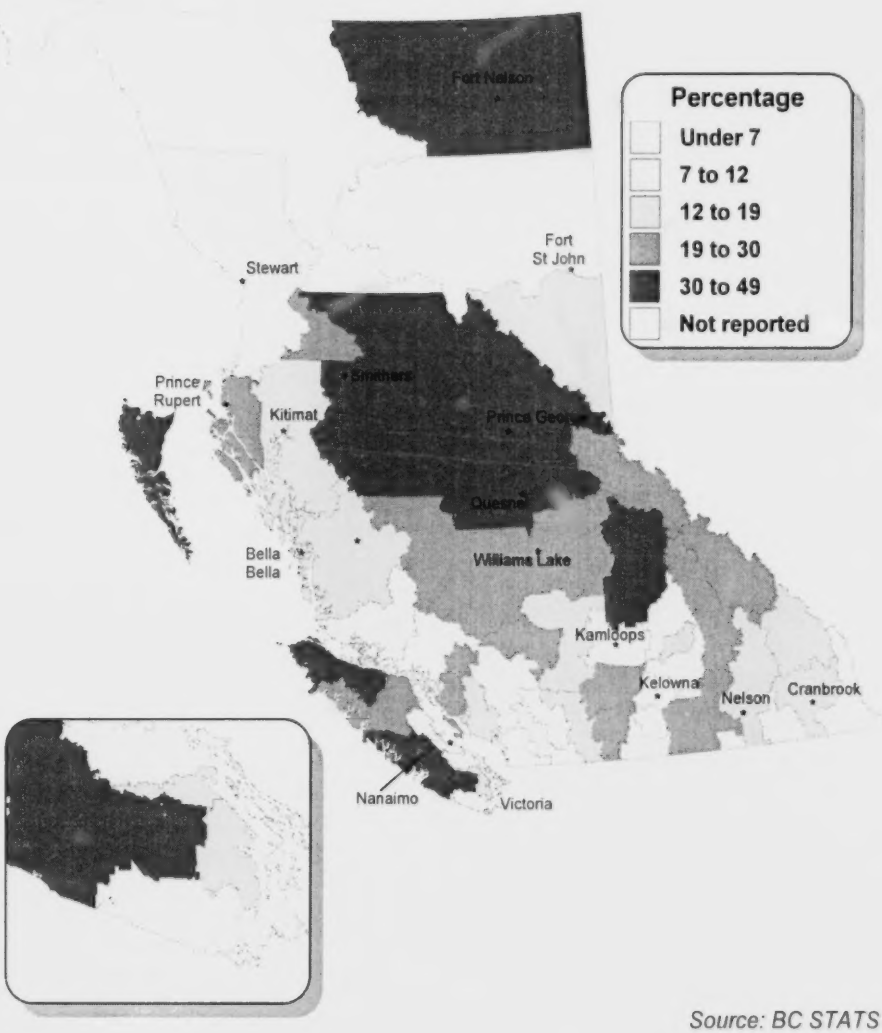
Map 2.1 Dominant Income Sources

Source: BC STATS
November 2003

Map 2.2 Regional Dependency on Forestry

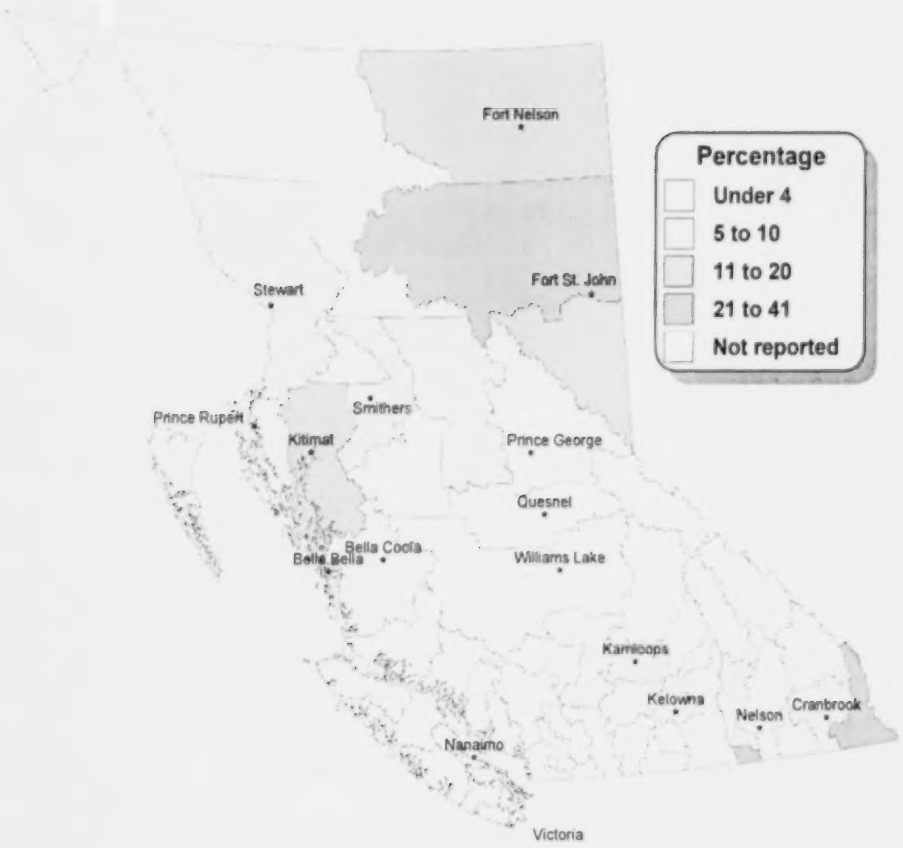
Source: BC STATS
November 2003

Map 2.2 Regional Dependency on Forestry



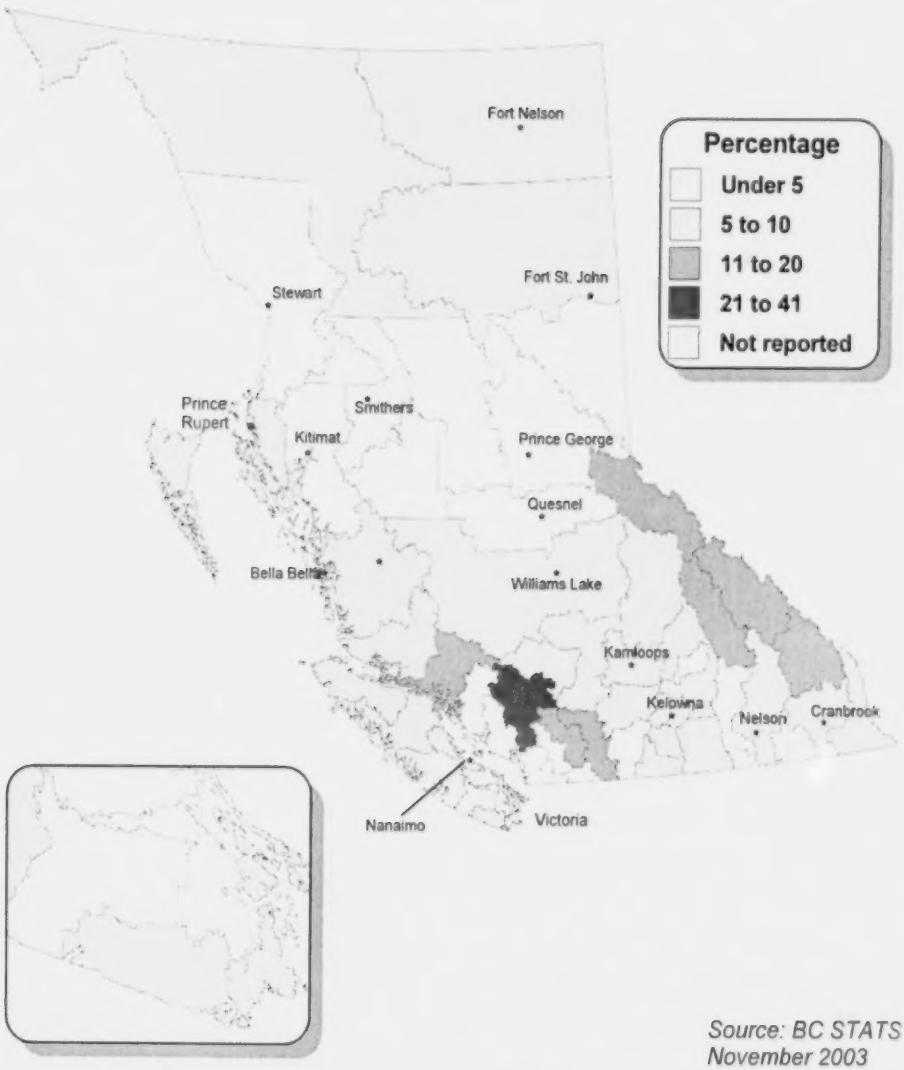
Source: BC STATS
November 2003

Map 2.3 Dependence on Underground Resources



Source: BC STATS
November 2003

Map 2.4 Dependence on Tourism



Source: BC STATS
November 2003

An interesting study by Beckstead and Brown that focuses on industrial diversity in Canadian cities has recently been released by Statistics Canada [3]. It uses a different formula for measuring diversity, adopts employment rather than after-tax income as its primary economic variable (and thus ignores non-employment as an "industrial sector"), and considers all industries regardless of whether they are basic or not. Nevertheless, the relative results for the British Columbia cities in that study are generally quite similar to those found by this study. The two places that differ significantly between the two studies appear to be Victoria and Dawson Creek.

As noted in Table 2.2, Victoria is one of the least diversified areas in British Columbia by the measure used in this study. The Statistics Canada study, on the other hand, has Victoria in third place among 20 British Columbia cities for which the calculations were done – only Vancouver and Abbotsford were estimated to have more diverse economies than Victoria. However, the Statistics Canada study excluded government, postal, health and education industries from their analysis. This probably is the main reason for the difference in results for Victoria – the dominance of government and other public sector activities in the Victoria area leads to the low diversity by our measure but is ignored in the Beckstead and Brown study.

Dawson Creek is harder to explain. As can be seen in Table 2.2 our measure of diversity suggests that Dawson Creek is one of the most diverse areas in the province. Looking at the dependencies this seems to make sense – a fairly even balance between forestry and mining with lesser but not insignificant levels of activity in agriculture and tourism. On the other hand, the Beckstead and Brown study ranks Dawson Creek in 15th place among the 20 British Columbia cities studied (and only about half as diverse as Victoria).

One possible explanation for this apparent contradiction between the two studies has to do with the size of the places studied. As part of their study, Beckstead and Brown found a strong correlation between population size and economic diversity. That finding seems logical, particularly with respect to the nonbasic sector – as towns grow local spending can support a greater array of specialized services[6]. It is quite easy to show that if the relative share of the nonbasic sector increases with population and if you include the nonbasic industries in your diversity calculations then you will automatically get greater diversity values for places having larger populations. Dawson Creek is one of the smallest places in the Statistics Canada study and this probably accounts

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[6] It is also indicated by Table 3.5 in this report, which shows, for each local area, the total nonbasic income divided by basic income. Those ratios tend to be larger where population is high and smaller in the sparsely populated areas.

significantly for its estimated low diversity value. The present study, by omitting the nonbasic sector from the diversity calculations, considerably reduces the effect of population size on the result.

Further discussion of the ways in which the diversities of local economies have changed over time may be found in Chapter 4.

Table 2.3
Diversity Indices

VANCOUVER ISLAND/COAST	DI
1 Gulf Islands	66
2 Victoria	58
3 Sooke-Port Renfrew	60
4 Duncan	69
5 Lake Cowichan	63
6 Ladysmith	69
7 Nanaimo	69
8 Parksville-Qualicum	67
9 Alberni	65
10 Courtenay-Comox	68
11 Campbell River	70
12 Bute Inlet	75
13 Powell River	67
14 Alert Bay	65
15 Port Hardy	52
16 Central Coast	60
MAINLAND/SOUTHWEST	
17 Hope-Fraser Canyon	71
18 Chilliwack	70
19 Kent-Harrison	71
20 Matsqui-Abbottsford	73
21 Pitt Meadows-Maple Ridge	70
22 Mission	72
23 Sunshine Coast	72
24 Squamish	69
25 Lillooet	67
THOMPSON-OKANAGAN	
26 Princeton	65
27 Oliver-Osoyoos	66
28 Penticton	68
29 Ashcroft	76
30 Merritt	68
31 Kamloops	72
32 North Thompson	61
33 Peachland	73
34 Kelowna	73
35 Vernon	72
36 Spallumcheen	75
37 Salmon Arm	73
38 Golden	72
39 Revelstoke	73

KOOTENAY	DI
40 Fernie	61
41 Cranbrook-Kimberley	74
42 Invermere	74
43 Castlegar-Arrow Lakes	69
44 Nelson	69
45 Creston	68
46 Grand Forks-Greenwood	69
47 Trail-Rossland	66
CARIBOO	
48 Williams Lake	67
49 Quesnel	57
50 Prince George	64
51 McBride-Valemount	68
NORTH COAST	
52 Queen Charlotte Island	62
53 Prince Rupert	66
54 Kitimat-Terrace	70
55 Hazelton	59
56 Stewart	59
NECHAKO	
57 Smithers-Houston	63
58 Burns Lake	60
59 Vanderhoof	56
60 Stikine	58
NORTHEAST	
61 Dawson Creek	74
62 Fort St. John	70
63 Ft. Nelson	68

Map 2.5 Regional Diversity

Source: BC STATS
November 2003

2.3 The Vulnerability of Local Areas to the Forest Sector

British Columbia is particularly dependent on the forest sector as a driver of local economies in many parts of the province. To examine this issue, and put some numbers to it, the Forest Vulnerability Index (FVI) was developed using data from the Income Dependency Table (Table 2.1) and the Diversity Table (Table 2.2). FVI is a number the magnitude of which indicates the vulnerability of each local area to potential downturns in the forest sector. The rationale behind it is that a community will be particularly vulnerable if its dependence on the forest sector is high and if its diversity is low.

The first step in calculating the Forest Vulnerability Index is to multiply each local area's income dependence on Forestry by (100 - its Diversity Index). The larger this product is, the more vulnerable the local area is assumed to be. The remainder of the procedure is just to normalize the products so that 100 is the largest and 0 is the smallest. If we call the products F_i, and let F_{max} be the largest of them and F_{min} be the smallest, then this normalization can be effected by the formula

$$FVI_i = 100 \times \frac{F_i - F_{min}}{F_{max} - F_{min}}$$

Observe that FVI_i will be zero when $F_i = F_{min}$ and will be 100 when $F_i = F_{max}$.

The advantages of this index are that the data on which it is based is readily available from this study, and the calculations are mechanical, transparent and free of regional biases.

However, the FVI does have shortcomings, principally:

- No use is made of "on-the-ground" information - for example, standing timber inventories, or mills whose timber supply is being depleted, or changes in market demands for particular products;
- The definition of the local areas may have combined some communities that should be considered separately for this index to be most meaningful. However, see Appendix B where this difficulty is at least partially resolved.

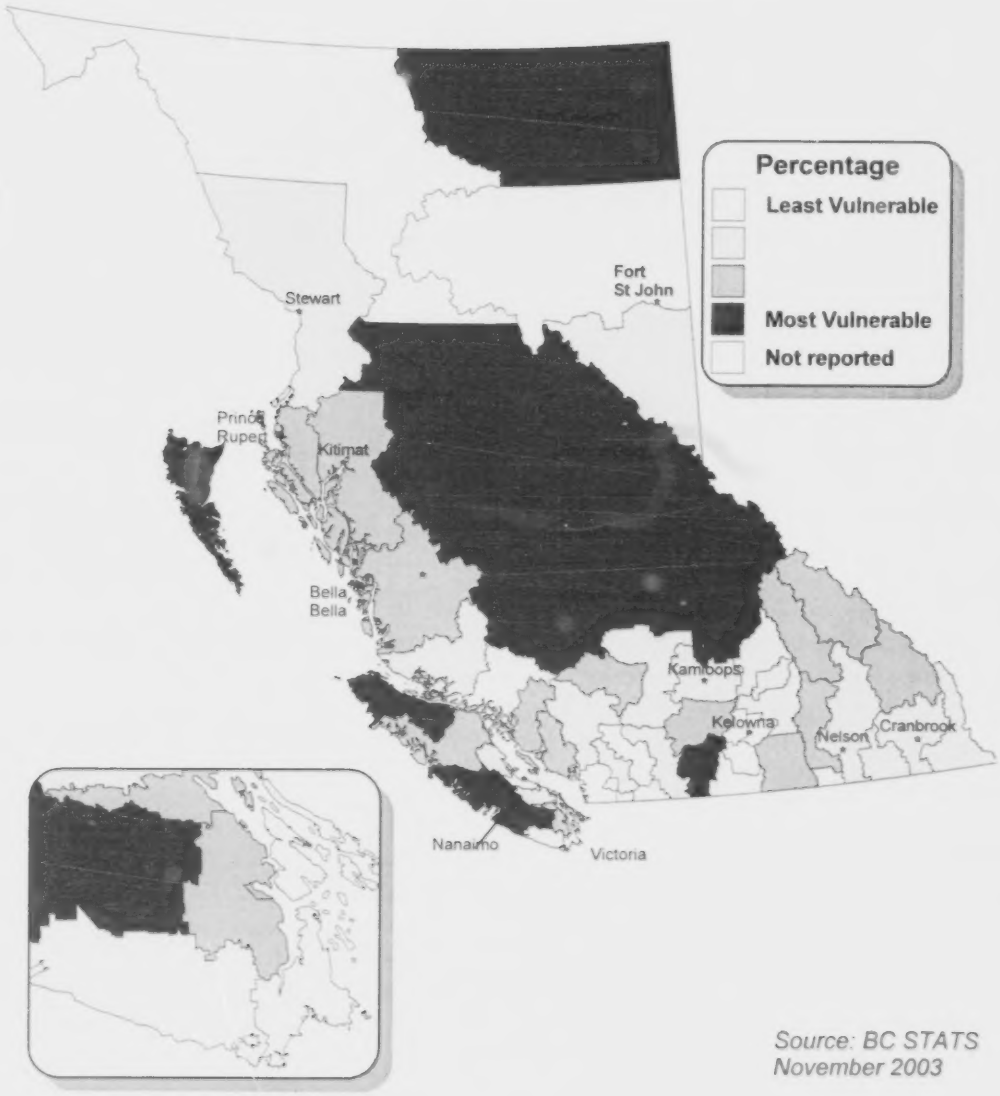
It is worth emphasizing that a high value of the Forest Vulnerability Index **does not mean** that the wood-based manufacturing facilities in that area are more likely to shut down than in other areas. Rather, a high value means that if forest sector activity in the area declines then the area will experience greater economic difficulties than other areas in the province would under the same circumstances.

The Forest Vulnerability Indices are shown in Table 2.4 and displayed in Map 2.6. Consideration and discussion of the ways in which FVI has changed over the years may be found in Chapter 4 of this report.

Table 2.4
Forest Vulnerability Indices

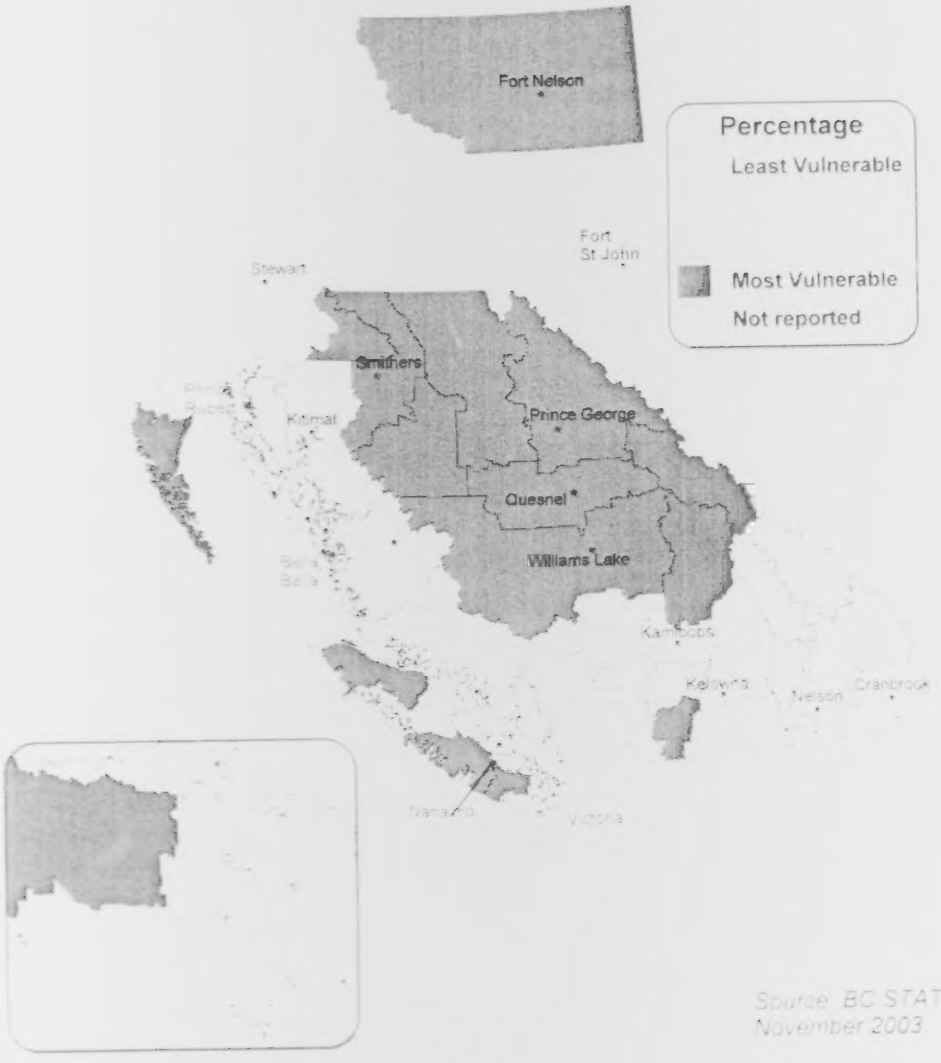
15	Port Hardy	100	24	Squamish	14
59	Vanderhoof	81	56	Stewart	14
49	Quesnel	78	10	Courtenay-Comox	13
32	North Thompson	65	22	Mission	13
58	Burns Lake	61	7	Nanaimo	13
57	Smithers-Houston	53	40	Fernie	12
52	Queen Charlotte Island	52	36	Spallumcheen	12
55	Hazelton	51	45	Creston	12
5	Lake Cowichan	48	31	Kamloops	11
50	Prince George	47	37	Salmon Arm	11
9	Alberni	45	14	Alert Bay	10
48	Williams Lake	42	35	Vernon	10
63	Ft. Nelson	41	8	Parksville-Qualicum	9
26	Princeton	40	21	Pitt Meadows-Maple Ridge	8
51	McBride-Valemount	40	62	Fort St. John	8
13	Powell River	36	20	Matsqui-Abbottsford	7
11	Campbell River	36	27	Oliver-Osoyoos	7
30	Merritt	32	19	Kent-Harrison	6
46	Grand Forks-Greenwood	32	28	Penticton	6
43	Castlegar-Arrow Lakes	31	18	Chilliwack	6
53	Prince Rupert	31	12	Bute Inlet	4
38	Golden	28	33	Peachland	4
25	Lillooet	28	34	Kelowna	4
6	Ladysmith	25	47	Trail-Rossland	3
39	Revelstoke	23	3	Sooke-Port Renfrew	3
54	Kitimat-Terrace	23	60	Stikine	1
4	Duncan	22	1	Gulf Islands	0
23	Sunshine Coast	22	2	Victoria	0
16	Central Coast	21			
42	Invermere	18			
29	Ashcroft	17			
61	Dawson Creek	17			
17	Hope-Fraser Canyon	16			
44	Nelson	15			
41	Cranbrook-Kimberley	14			

Map 2.6 Forest Sector Vulnerability



Source: BC STATS
November 2003

Map 2.6 Forest Sector Vulnerability



Source: BC STATS
November 2003

2.4 Tourism

A particular challenge in this work is just how to estimate numbers of tourism jobs, considering that while some of these are quite clear (resorts and campgrounds, back-country guiding, whale-watching, etc.) others are aggregated with resident services (e.g. restaurants, retail outlets, local transportation services).

Counting just the clearly tourism jobs underestimates them; on the other hand, counting all food services and retail employees as tourist-related results in an over-estimate ignoring, as it does, the fact that residents also make use of these services.

Table 2.5 makes use of the local area database[7] to address this issue. It provides, for each local area, the ratio of total direct tourism employment divided by direct employment in accommodation services. In many applications the latter number is easier to estimate. For example, it may be known that a new hotel under construction will employ 100 people. If this were the case in the Squamish area, the direct tourism ratio would suggest that there would be another 199 workers in other industries (food services, retail, transportation) that could be rightly considered as direct tourist workers.[8]

It is important to realize that the ratios in Table 2.5 are different in nature from any of the ratios provided in Chapter 3. When tourists come to an area they spend money in a variety of ways. Table 2.5 is offered here just as a way of estimating the total local employment generated by that spending from an estimate of the accommodation employment. All of these jobs would still be considered "direct" tourism jobs in the nomenclature of this study. On the other hand, indirect tourism jobs result from any local spending by the tourist industry itself, and induced (or nonbasic) jobs arise from the local spending of incomes earned by both direct and indirect tourism workers.

As an aside, and comment on Table 2.5, it looks like those areas that are known for their tourism (Invermere, McBride-Valemount, Squamish) also have low direct tourism ratios. This is probably because of the nature of comprehensive resorts that provide not only accommodation but also food services, transportation, and retail outlets (gift shops) and consequently where visitors may not spend as much of their money in the rest of the community.

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[7] Appendix A.5 explains how this database is created from existing data.

[8] Note that Table 2.5 provides estimates of the total number of tourism workers but does not say which industry those workers are actually in (e.g. food services, transportation, etc.). That information is in the model, but not in this report. If it's important to know, call BC Stats.

Table 2.5
Direct Tourism Ratios*

VANCOUVER ISLAND/COAST	
1 Gulf Islands	3.72
2 Victoria	4.94
3 Sooke-Port Renfrew	4.92
4 Duncan	4.80
5 Lake Cowichan	4.70
6 Ladysmith	4.59
7 Nanaimo	4.22
8 Parksville-Qualicum	4.40
9 Alberni	3.36
10 Courtenay-Comox	4.50
11 Campbell River	4.39
12 Bute Inlet	2.99
13 Powell River	4.37
14 Alert Bay	2.61
15 Port Hardy	3.21
16 Central Coast	2.49
MAINLAND/SOUTHWEST	
17 Hope-Fraser Canyon	3.85
18 Chilliwack	4.43
19 Kent-Harrison	2.92
20 Matsqui-Abbottsford	5.07
21 Pitt Meadows-Maple Ridge	4.66
22 Mission	4.59
23 Sunshine Coast	4.45
24 Squamish	2.99
25 Lillooet	2.41
THOMPSON-OKANAGAN	
26 Princeton	4.27
27 Oliver-Osoyoos	3.44
28 Penticton	4.89
29 Ashcroft	2.64
30 Merritt	3.56
31 Kamloops	4.06
32 North Thompson	2.96
33 Peachland	4.92
34 Kelowna	4.94
35 Vernon	4.84
36 Spallumcheen	4.83
37 Salmon Arm	3.97
38 Golden	3.55
39 Revelstoke	3.13
KOOTENAY	
40 Fernie	3.30
41 Cranbrook-Kimberley	4.14
42 Invermere	2.91
43 Castlegar-Arrow Lakes	3.82
44 Nelson	4.04
45 Creston	3.92
46 Grand Forks-Greenwood	3.92
47 Trail-Rossland	4.17
CARIBOO	
48 Williams Lake	3.82
49 Quesnel	4.01
50 Prince George	4.38
51 McBride-Valemount	2.97
NORTH COAST	
52 Queen Charlotte Island	3.83
53 Prince Rupert	4.10
54 Kitimat-Terrace	4.51
55 Hazelton	4.20
56 Stewart	2.80
NECHAKO	
57 Smithers-Houston	4.05
58 Burns Lake	4.15
59 Vanderhoof	4.39
60 Stikine	2.29
NORTHEAST	
61 Dawson Creek	4.37
62 Fort St. John	4.25
63 Ft. Nelson	2.80

*Total direct tourism employment Divided by employment in Accommodation services

3. The Employment Impact Ratios for 2001

3.1 General Introduction

As in previous reports, in this section we present three tables of employment ratios. Each table provides ratios for each of a number of important industries for each of the 63 local areas defined in this study. There are separate tables for Indirect only, for Indirect plus Induced where the social safety net is a factor, and for Indirect plus Induced where the short-term mitigation effects of the safety net can be ignored.

All of these ratios are of the form:

$$\text{Ratio} = \frac{\text{Total Employment attributable to the Activity which generates the Direct Employment}}{\text{Direct Employment}}$$

The **indirect ratios** are entirely concerned with any additional employment generated in the community because of other spending associated with the direct employment. For example, an industrial plant may have 100 employees. That would be the direct employment. However, the plant may also make other local purchases which lead to related employment - e.g. they may purchase some supplies from local retail stores, they may consult with local accountants or lawyers, or they may contract with local tradesmen for special jobs which their employees are not trained to handle. All of these hired services generate indirect employment. Strictly speaking, of course, it is not the direct employees themselves that generate the indirect employment but the other non-wage spending by the industry employing the direct workers. Nevertheless, we assume that the ratio remains constant even if the scale of plant changes - more or less direct employment means a bigger or smaller plant and more or less indirect employment. Table 3.1 shows indirect employment ratios for selected industries for the 63 local areas of this study.

The **induced ratios** are based on the same formula, but in addition to the indirect employment they assign some portion of the nonbasic employment in the community to the income source generating the direct employment. This is done in a very simple proportional way. Suppose, for example, that our allocation procedures have identified 1000 nonbasic jobs in a given community, and that Industry X's share of the after-tax basic income is 20%. The model will then assign 20% of the 1000, or 200, nonbasic jobs to Industry X, increasing the employment impact ratio accordingly.

The **social safety net** (specifically, transfer payments like employment insurance and income assistance) comes into the picture because when there are major changes in a community's industrial structure, estimation of the total impacts of those changes depends on how the income changes translate into changes in spending, because it is spending by local

residents that supports the nonbasic sector. In the case of a mill closure for example, if it is assumed that employment income drops to zero and is not replaced with anything, then we have to assume that spending also drops to zero with a correspondingly drastic effect on the nonbasic sector. However, if, as normally happens in the short-run at least, employment income is replaced by transfer payments then the effect is not nearly so dramatic. Tables 3.2 and 3.3 provide ratios for these two most extreme assumptions – where everyone who loses a job begins to receive employment insurance (3.2 – with safety net) and conversely, where spending drops to zero with lost jobs (3.3 – No Safety Net). The Safety Net case may also be thought of as the No-Migration case where everyone stays put and waits to see what will happen next – this is the likely Short-Run scenario. The No-Safety Net case is comparable in reality to a scenario where everyone who loses their job moves away from the community to seek work elsewhere – from the community's perspective their income and spending have dropped to zero. The No-Safety Net case is also what is more likely to happen in the long run. Finally, it should be noted that while all of the terminology and examples described in this paragraph are expressed in terms of shutdowns and job losses, there is a precisely comparable set of examples which relate to the opening of new employment opportunities – if the new jobs are filled by in-migrants to the community the impact on spending (and thus the nonbasic sector) will be greater than if they are filled by individuals in the community who were subsisting on transfer payments.[9]

All of the ratios in this report deal with employment rather than income. There is a comparable set of income ratios which have not been published but which can be computed by the model, or manually with appropriate income data. Here's an example: let the direct employment be DE and the other related employment be OE, and the relevant employment impact ratio be 1.3.

$$\text{Then} \quad \frac{DE + OE}{DE} = 1.3 \quad \text{or} \quad \frac{OE}{DE} = 0.3$$

Let's assume we know that the average income of the DE is $40,000 and the average income of the OE is $30,000. We are interested in estimating the corresponding income ratio IR.

$$IR = \frac{(40000 \times DE) + (30000 \times OE)}{40000 \times DE} = 1 + 0.75 \times \frac{OE}{DE} = 1 + .75 \times .3 = 1.225$$

---

[9] From a social and humane perspective it may be preferable to bring new industry to a community to provide jobs for the people who already live there, but from the perspective of the community's economics it's better if the new jobs are filled by new people moving to the community, so that it grows.

The trickiest part in this of course is having estimates of the relevant average incomes.

Employment impact ratios have been published in this report rather than income ratios because they seem to be more useful. Most people can relate more easily to a community's change in employment levels than to the comparable change in income levels.

The ratios that are presented in the tables of the following section are commonly called multipliers and, indeed, they are used as multipliers in the illustrative examples that follow in Section 3.3. We have chosen to call the table entries ratios rather than multipliers to emphasize that, while they are definitely *ratios* (a *ratio* is just one number divided by another), their application as multipliers to make predictions requires a few more assumptions. When we use a multiplier to predict the impacts of a change we are assuming that even though everything else is changing, the multiplier somehow remains the same. There is an intuitive logic to this, and some supporting empirical evidence, but it's largely an assumption – that the multiplier persists in the face of other economic changes. There are probably cases where, while the ratio is always a rati[illegible]he ratio may not be a good multiplier.

The industry set (the columns) in these tables is different from the set used in the tables of Chapter 2. This is because the purposes are different. In the case of dependencies it was important to capture all sources of basic income somewhere in the table (the numbers in each row must sum to 100%), and with this in mind it seemed reasonable to aggregate vertically integrated industries like Forestry (logging, pulp and paper, and all wood-based manufacturing), Mining and Mineral Processing, or Agriculture and Food Processing. However, in the case of impact ratios, it is equally important not to aggregate industries that are distinct and that may have quite different ratios – for example, logging and Pulp and Paper are quite distinct activities and consequently have quite different ratios. Aggregating them would produce a hybrid multiplier that would not be accurate for either activity.

Section 3.2 presents the tables of employment impact ratios without further comment. Section 3.3 provides a number of examples illustrating their use as multipliers. Changes in the ratios over time are presented and discussed in Section 4.3.

3.2 The Employment Impact Ratios

Table 3.1

Indirect Employment Ratios ((Direct + Indirect)/Direct)

	Log-ging	Pulp& Paper	Wood Mfg.	Mining	High Tech	Agr.	Tour-ism	Public Sector	Const.
VANCOUVER ISLAND/COAST									
1 Gulf Islands	1.23	N.A.	1.25	1.33	1.02	1.15	1.08	1.12	1.28
2 Victoria	1.22	1.74	1.24	1.34	1.07	1.15	1.08	1.17	1.29
3 Sooke-Port Renfrew	1.20	1.74	1.29	1.34	1.11	1.15	1.08	1.16	1.29
4 Duncan	1.19	1.60	1.27	1.32	1.07	1.15	1.06	1.14	1.28
5 Lake Cowichan	1.17	1.48	1.23	1.29	1.25	1.13	1.06	1.14	1.24
6 Ladysmith	1.20	1.72	1.32	1.32	1.14	1.15	1.07	1.13	1.28
7 Nanaimo	1.21	1.74	1.33	1.34	1.06	1.15	1.08	1.14	1.29
8 Parksville-Qualicum	1.20	1.74	1.32	1.34	1.25	1.15	1.07	1.14	1.29
9 Alberni	1.17	1.49	1.24	1.27	1.25	1.13	1.07	1.13	1.24
10 Courtenay-Comox	1.20	1.73	1.32	1.33	1.25	1.15	1.07	1.14	1.29
11 Campbell River	1.21	1.64	1.30	1.31	1.28	1.14	1.07	1.14	1.27
12 Bute Inlet	1.18	N.A.	1.25	1.28	1.26	1.13	1.06	1.13	1.23
13 Powell River	1.19	1.60	1.29	1.29	1.24	1.14	1.07	1.11	1.26
14 Alert Bay	1.14	N.A.	1.22	N.A.	1.00	1.12	1.05	1.12	1.22
15 Port Hardy	1.17	1.62	1.30	1.28	1.00	1.13	1.07	1.13	1.25
16 Central Coast	1.16	N.A.	1.29	N.A.	1.00	1.12	1.06	1.14	1.21
MAINLAND/SOUTHWEST (Excluding GVRD)									
17 Hope-Fraser Canyon	1.15	N.A.	1.30	1.29	N.A.	1.13	1.08	1.13	1.22
18 Chilliwack	1.18	1.74	1.27	1.33	1.23	1.15	1.09	1.14	1.29
19 Kent-Harrison	1.14	N.A.	1.27	1.29	1.07	1.14	1.07	1.15	1.27
20 Matsqui-Abbottsford	1.18	1.74	1.29	1.33	1.27	1.15	1.07	1.13	1.29
21 Pitt Meadows-Maple Ridge	1.21	1.74	1.30	1.34	1.22	1.15	1.08	1.13	1.29
22 Mission	1.19	1.73	1.32	1.33	1.29	1.15	1.08	1.14	1.28
23 Sunshine Coast	1.21	1.71	1.33	1.33	1.04	1.15	1.08	1.14	1.29
24 Squamish	1.21	1.72	1.33	1.32	1.05	1.15	1.07	1.13	1.28
25 Lillooet	1.16	N.A.	1.26	1.30	1.00	1.14	1.09	1.16	1.25
THOMPSON-OKANAGAN									
26 Princeton	1.11	1.67	1.28	1.26	N.A.	1.12	1.07	1.13	1.16
27 Oliver-Osoyoos	1.15	N.A.	1.28	1.30	1.27	1.14	1.08	1.12	1.25
28 Penticton	1.18	1.74	1.26	1.33	1.25	1.15	1.08	1.13	1.29
29 Ashcroft	1.14	1.68	1.31	1.28	1.23	1.13	1.08	1.13	1.21
30 Merritt	1.12	1.69	1.32	1.30	N.A.	1.14	1.08	1.15	1.26
31 Kamloops	1.20	1.74	1.29	1.34	1.21	1.15	1.09	1.15	1.29
32 North Thompson	1.11	1.59	1.28	1.25	N.A.	1.12	1.06	1.13	1.22
33 Peachland	1.20	1.74	1.32	1.34	1.13	1.15	1.08	1.13	1.29
34 Kelowna	1.21	1.74	1.26	1.34	1.11	1.15	1.08	1.12	1.29
35 Vernon	1.18	1.74	1.30	1.34	1.25	1.15	1.08	1.13	1.29
36 Spallumcheen	1.15	1.72	1.28	1.31	1.27	1.14	1.08	1.10	1.25
37 Salmon Arm	1.18	1.73	1.30	1.33	1.15	1.15	1.09	1.13	1.29
38 Golden	1.16	1.68	1.23	1.28	1.25	1.13	1.06	1.11	1.26
39 Revelstoke	1.19	N.A.	1.32	N.A.	1.17	N.A.	1.07	1.15	1.27

Table 3.1 (cont)
Indirect Employment Ratios ((Direct + Indirect)/Direct)

	Logging	Pulp& Paper	Wood Mfg.	Mining	High Tech	Agr.	Tourism	Public Sector	Const.
KOOTENAY									
40 Fernie	1.16	1.53	1.25	1.27	1.22	1.12	1.08	1.10	1.21
41 Cranbrook-Kimberley	1.19	1.72	1.34	1.32	1.28	1.14	1.09	1.13	1.26
42 Invermere	1.17	1.58	1.28	1.31	N.A.	1.14	1.08	1.12	1.27
43 Castlegar-Arrow Lakes	1.15	1.59	1.27	1.30	1.16	1.14	1.08	1.12	1.25
44 Nelson	1.17	1.72	1.33	1.32	1.16	1.15	1.08	1.14	1.28
45 Creston	1.13	N.A.	1.31	1.30	N.A.	1.14	1.08	1.11	1.23
46 Grand Forks-Greenwood	1.16	1.65	1.28	1.31	1.22	1.14	1.09	1.13	1.27
47 Trail-Rossland	1.16	1.46	1.21	1.27	1.22	1.13	1.07	1.11	1.24
CARIBOO									
48 Williams Lake	1.15	1.71	1.30	1.31	1.24	1.14	1.08	1.15	1.27
49 Quesnel	1.15	1.60	1.27	1.29	1.00	1.13	1.07	1.12	1.26
50 Prince George	1.20	1.73	1.34	1.33	1.08	1.15	1.08	1.14	1.29
51 McBride-Valemount	1.15	N.A.	1.31	N.A.	1.00	1.14	1.07	1.13	1.27
NORTH COAST									
52 Queen Charlotte Island	1.19	1.72	1.33	N.A.	1.00	1.15	1.08	1.14	1.27
53 Prince Rupert	1.20	1.67	1.31	1.30	1.00	1.14	1.07	1.13	1.26
54 Kitimat-Terrace	1.18	1.60	1.29	1.30	1.27	1.14	1.07	1.14	1.25
55 Hazelton	1.09	N.A.	1.23	1.23	1.23	1.12	1.05	1.13	1.23
56 Stewart	1.09	N.A.	1.29	1.22	N.A.	N.A.	1.06	1.12	1.14
NECHAKO									
57 Smithers-Houston	1.17	1.71	1.33	1.31	1.00	1.14	1.08	1.17	1.27
58 Burns Lake	1.14	1.55	1.26	1.25	N.A.	1.12	1.06	1.13	1.18
59 Vanderhoof	1.12	1.52	1.25	1.27	1.26	1.13	1.07	1.14	1.25
60 Stikine	1.11	1.63	1.20	1.25	1.18	N.A.	1.07	1.14	1.17
NORTHEAST									
61 Dawson Creek	1.13	1.68	1.29	1.28	1.20	1.12	1.08	1.11	1.19
62 Fort St. John	1.13	1.66	1.30	1.26	1.20	1.11	1.07	1.10	1.19
63 Ft. Nelson	1.14	N.A.	1.20	1.25	1.15	1.11	1.09	1.13	1.15

Table 3.2
Indirect and Induced Employment Ratios ((Direct + Indirect + Induced)/Direct)
No Migration (with Safety Net)

	Logging	Pulp& Paper	Wood Mfg.	Mining	High Tech	Agr.	Tourism	Public Sector	Const.
VANCOUVER ISLAND/COAST									
1 Gulf Islands	1.30	N.A.	1.32	1.36	1.08	1.19	1.13	1.19	1.36
2 Victoria	1.35	1.92	1.36	1.54	1.19	1.22	1.14	1.29	1.40
3 Sooke-Port Renfrew	1.35	1.80	1.39	1.36	1.22	1.22	1.13	1.29	1.41
4 Duncan	1.37	1.90	1.40	1.41	1.16	1.21	1.12	1.24	1.38
5 Lake Cowichan	1.32	1.97	1.35	1.30	1.25	1.18	1.10	1.22	1.33
6 Ladysmith	1.40	2.03	1.54	1.35	1.22	1.22	1.12	1.23	1.38
7 Nanaimo	1.47	2.12	1.54	1.49	1.19	1.23	1.15	1.28	1.43
8 Parksville-Qualicum	1.36	1.97	1.43	1.48	1.30	1.20	1.12	1.22	1.37
9 Alberni	1.29	1.68	1.34	1.28	1.27	1.17	1.10	1.19	1.31
10 Courtenay-Comox	1.37	1.98	1.44	1.50	1.37	1.22	1.12	1.24	1.39
11 Campbell River	1.38	1.88	1.41	1.52	1.30	1.22	1.12	1.23	1.36
12 Bute Inlet	1.24	N.A.	1.32	1.36	1.27	1.18	1.10	1.19	1.29
13 Powell River	1.29	1.85	1.37	1.40	1.27	1.18	1.11	1.20	1.34
14 Alert Bay	1.18	N.A.	1.25	N.A.	1.07	1.15	1.07	1.15	1.25
15 Port Hardy	1.27	1.76	1.36	1.60	1.03	1.18	1.10	1.18	1.32
16 Central Coast	1.21	N.A.	1.33	N.A.	1.03	1.15	1.08	1.18	1.26
MAINLAND/SOUTHWEST (Excluding GVRD)									
17 Hope-Fraser Canyon	1.24	N.A.	1.44	1.42	N.A.	1.19	1.11	1.19	1.31
18 Chilliwack	1.32	1.94	1.40	1.50	1.32	1.23	1.15	1.26	1.41
19 Kent-Harrison	1.19	N.A.	1.38	1.37	1.12	1.18	1.10	1.20	1.32
20 Matsqui-Abbottsford	1.33	2.05	1.45	1.57	1.42	1.24	1.15	1.27	1.44
21 Pitt Meadows-Maple Ridge	1.38	2.15	1.48	1.73	1.42	1.25	1.17	1.28	1.46
22 Mission	1.33	2.17	1.52	1.59	1.43	1.24	1.15	1.27	1.42
23 Sunshine Coast	1.34	2.04	1.50	1.58	1.11	1.22	1.13	1.24	1.39
24 Squamish	1.32	1.94	1.47	1.49	1.12	1.19	1.13	1.21	1.38
25 Lillooet	1.23	N.A.	1.33	1.31	1.06	1.18	1.12	1.21	1.31
THOMPSON-OKANAGAN									
26 Princeton	1.26	1.72	1.44	1.36	N.A.	1.15	1.10	1.20	1.28
27 Oliver-Osoyoos	1.21	N.A.	1.36	1.43	1.28	1.17	1.11	1.18	1.31
28 Penticton	1.30	1.80	1.37	1.51	1.34	1.21	1.13	1.24	1.39
29 Ashcroft	1.21	1.73	1.46	1.46	1.25	1.16	1.11	1.17	1.27
30 Merritt	1.19	1.72	1.43	1.44	N.A.	1.17	1.11	1.21	1.33
31 Kamloops	1.36	2.17	1.46	1.69	1.34	1.21	1.16	1.29	1.43
32 North Thompson	1.15	1.61	1.36	1.29	N.A.	1.14	1.08	1.17	1.26
33 Peachland	1.33	2.08	1.50	1.67	1.26	1.22	1.15	1.25	1.42
34 Kelowna	1.38	1.97	1.41	1.51	1.23	1.24	1.16	1.26	1.43
35 Vernon	1.32	1.82	1.46	1.57	1.38	1.22	1.15	1.25	1.41
36 Spallumcheen	1.25	1.78	1.42	1.63	1.35	1.20	1.13	1.19	1.35
37 Salmon Arm	1.28	1.79	1.45	1.44	1.24	1.21	1.14	1.23	1.39
38 Golden	1.23	1.71	1.33	1.35	1.27	1.17	1.10	1.18	1.33
39 Revelstoke	1.27	N.A.	1.45	N.A.	1.20	N.A.	1.11	1.22	1.34

Table 3.2 (cont)
Indirect and Induced Employment Ratios ((Direct + Indirect + Induced)/Direct)
No Migration (with Safety Net)

	Log ging	Pulp& Paper	Wood Mfg.	Mining	High Tech	Agr.	Tour- ism	Public Sector	Const.
KOOTENAY									
40 Fernie	1.21	1.56	1.35	1.39	1.44	1.15	1.11	1.16	1.27
41 Cranbrook-Kimberley	1.31	1.98	1.53	1.56	1.41	1.21	1.15	1.24	1.36
42 Invermere	1.26	1.78	1.41	1.48	N.A.	1.18	1.13	1.21	1.35
43 Castlegar-Arrow Lakes	1.25	1.86	1.41	1.53	1.26	1.18	1.12	1.21	1.35
44 Nelson	1.27	1.95	1.44	1.44	1.24	1.19	1.13	1.24	1.38
45 Creston	1.21	N.A.	1.42	1.51	N.A.	1.19	1.12	1.19	1.31
46 Grand Forks-Greenwood	1.26	1.68	1.42	1.41	1.25	1.19	1.12	1.21	1.35
47 Trail-Rossland	1.22	1.66	1.32	1.48	1.25	1.20	1.11	1.21	1.34
CARIBOO									
48 Williams Lake	1.24	1.83	1.43	1.46	1.29	1.19	1.12	1.23	1.36
49 Quesnel	1.25	1.84	1.41	1.42	1.06	1.18	1.12	1.21	1.34
50 Prince George	1.34	2.10	1.56	1.47	1.19	1.22	1.16	1.27	1.43
51 McBride-Valemount	1.20	N.A.	1.38	N.A.	1.05	1.16	1.10	1.18	1.31
NORTH COAST									
52 Queen Charlotte Island	1.37	1.77	1.44	N.A.	1.05	1.22	1.13	1.22	1.35
53 Prince Rupert	1.28	1.90	1.44	1.33	1.07	1.19	1.12	1.22	1.36
54 Kitimat-Terrace	1.29	1.83	1.45	1.41	1.29	1.18	1.12	1.23	1.34
55 Hazelton	1.15	N.A.	1.29	1.29	1.24	1.14	1.08	1.17	1.27
56 Stewart	1.11	N.A.	1.29	1.27	N.A.	N.A.	1.07	1.15	1.17
NECHAKO									
57 Smithers-Houston	1.27	1.88	1.47	1.48	1.08	1.19	1.12	1.26	1.37
58 Burns Lake	1.19	1.58	1.35	1.30	N.A.	1.14	1.09	1.18	1.24
59 Vanderhoof	1.22	1.62	1.34	1.40	1.28	1.17	1.09	1.20	1.33
60 Stikine	1.15	1.66	1.21	1.31	1.19	N.A.	1.09	1.20	1.23
NORTHEAST									
61 Dawson Creek	1.22	1.96	1.45	1.43	1.21	1.18	1.12	1.20	1.28
62 Fort St. John	1.21	1.97	1.48	1.38	1.22	1.17	1.12	1.18	1.29
63 Ft. Nelson	1.24	N.A.	1.34	1.34	1.16	1.15	1.13	1.19	1.22

Table 3.3
Indirect and Induced Employment Ratios ((Direct + Indirect + Induced)/Direct)
Migration (No Safety Net/No Public Sector Impacts)

	Log ging	Pulp& Paper	Wood Mfg.	Mining	High Tech	Agr.	Tour- ism	Public Sector	Const.
VANCOUVER ISLAND/COAST									
1 Gulf Islands	1.40	N.A.	1.43	1.39	1.18	1.24	1.20	1.31	1.49
2 Victoria	1.57	2.25	1.57	1.80	1.40	1.35	1.25	1.51	1.60
3 Sooke-Port Renfrew	1.58	1.92	1.58	1.41	1.40	1.33	1.23	1.50	1.61
4 Duncan	1.58	2.20	1.61	1.56	1.31	1.31	1.21	1.42	1.56
5 Lake Cowichan	1.49	2.20	1.54	1.33	1.27	1.26	1.18	1.37	1.49
6 Ladysmith	1.62	2.34	1.78	1.40	1.36	1.34	1.21	1.40	1.55
7 Nanaimo	1.77	2.56	1.86	1.75	1.44	1.35	1.28	1.54	1.67
8 Parksville-Qualicum	1.54	2.23	1.61	1.67	1.40	1.27	1.20	1.36	1.52
9 Alberni	1.40	1.83	1.46	1.30	1.29	1.24	1.15	1.29	1.41
10 Courtenay-Comox	1.58	2.28	1.63	1.73	1.55	1.33	1.21	1.42	1.56
11 Campbell River	1.56	2.12	1.58	1.72	1.34	1.36	1.20	1.38	1.51
12 Bute Inlet	1.32	N.A.	1.42	1.48	1.29	1.24	1.16	1.28	1.39
13 Powell River	1.45	2.08	1.51	1.58	1.31	1.25	1.18	1.33	1.46
14 Alert Bay	1.23	N.A.	1.32	N.A.	1.13	1.19	1.10	1.20	1.30
15 Port Hardy	1.36	1.87	1.45	1.71	1.08	1.25	1.15	1.25	1.41
16 Central Coast	1.29	N.A.	1.39	N.A.	1.08	1.19	1.12	1.26	1.33
MAINLAND/SOUTHWEST (Excluding GVRD)									
17 Hope-Fraser Canyon	1.37	N.A.	1.59	1.57	N.A.	1.28	1.17	1.30	1.44
18 Chilliwack	1.54	2.31	1.64	1.79	1.48	1.38	1.26	1.49	1.64
19 Kent-Harrison	1.26	N.A.	1.50	1.48	1.19	1.25	1.15	1.28	1.40
20 Matsqui-Abbottsford	1.57	2.50	1.76	1.91	1.71	1.41	1.29	1.54	1.73
21 Pitt Meadows-Maple Ridge	1.68	2.65	1.82	2.13	1.76	1.43	1.33	1.55	1.79
22 Mission	1.57	2.60	1.82	1.90	1.68	1.39	1.27	1.50	1.68
23 Sunshine Coast	1.55	2.36	1.74	1.83	1.24	1.35	1.23	1.42	1.57
24 Squamish	1.49	2.18	1.66	1.68	1.25	1.26	1.23	1.35	1.54
25 Lillooet	1.32	N.A.	1.44	1.34	1.16	1.24	1.15	1.30	1.40
THOMPSON-OKANAGAN									
26 Princeton	1.39	1.80	1.61	1.52	N.A.	1.18	1.17	1.32	1.43
27 Oliver-Osoyoos	1.29	N.A.	1.50	1.58	1.30	1.23	1.16	1.29	1.40
28 Penticton	1.48	1.92	1.56	1.74	1.50	1.30	1.21	1.43	1.57
29 Ashcroft	1.29	1.80	1.59	1.59	1.27	1.21	1.15	1.25	1.35
30 Merritt	1.29	1.77	1.56	1.56	N.A.	1.23	1.15	1.31	1.44
31 Kamloops	1.62	2.59	1.76	2.02	1.57	1.32	1.29	1.53	1.69
32 North Thompson	1.21	1.64	1.44	1.35	N.A.	1.17	1.11	1.22	1.32
33 Peachland	1.56	2.47	1.79	1.97	1.51	1.33	1.26	1.47	1.65
34 Kelowna	1.66	2.37	1.68	1.81	1.45	1.40	1.29	1.50	1.67
35 Vernon	1.55	1.96	1.73	1.87	1.60	1.34	1.26	1.47	1.62
36 Spallumcheen	1.38	1.88	1.64	1.87	1.47	1.30	1.21	1.35	1.51
37 Salmon Arm	1.44	1.89	1.68	1.62	1.38	1.31	1.22	1.40	1.56
38 Golden	1.35	1.78	1.47	1.46	1.29	1.24	1.16	1.28	1.45
39 Revelstoke	1.39	N.A.	1.62	N.A.	1.24	N.A.	1.18	1.34	1.45

Table 3.3 (cont)

Indirect and Induced Employment Ratios ((Direct + Indirect + Induced)/Direct)
Migration (No Safety Net/No Public Sector Impacts)

	Logging	Pulp& Paper	Wood Mfg.	Mining	High Tech	Agr.	Tourism	Public Sector	Const.
KOOTENAY									
40 Fernie	1.29	1.60	1.46	1.50	1.55	1.19	1.15	1.24	1.35
41 Cranbrook-Kimberley	1.51	2.31	1.78	1.81	1.64	1.33	1.24	1.44	1.55
42 Invermere	1.41	1.98	1.58	1.65	N.A.	1.24	1.20	1.35	1.49
43 Castlegar-Arrow Lakes	1.40	2.11	1.60	1.73	1.42	1.26	1.19	1.37	1.52
44 Nelson	1.42	2.23	1.63	1.65	1.38	1.26	1.20	1.40	1.53
45 Creston	1.31	N.A.	1.60	1.71	N.A.	1.26	1.18	1.33	1.42
46 Grand Forks-Greenwood	1.40	1.75	1.59	1.56	1.31	1.26	1.18	1.33	1.46
47 Trail-Rossland	1.32	1.89	1.50	1.69	1.31	1.30	1.19	1.37	1.51
CARIBOO									
48 Williams Lake	1.38	2.02	1.62	1.64	1.36	1.26	1.19	1.37	1.49
49 Quesnel	1.39	2.08	1.61	1.62	1.15	1.25	1.19	1.35	1.47
50 Prince George	1.57	2.50	1.86	1.73	1.38	1.34	1.29	1.51	1.69
51 McBride-Valemount	1.28	N.A.	1.49	N.A.	1.12	1.20	1.14	1.25	1.39
NORTH COAST									
52 Queen Charlotte Island	1.54	1.85	1.62	N.A.	1.12	1.33	1.21	1.35	1.48
53 Prince Rupert	1.40	2.16	1.64	1.37	1.18	1.28	1.21	1.38	1.52
54 Kitimat-Terrace	1.46	2.07	1.64	1.58	1.33	1.24	1.19	1.38	1.50
55 Hazelton	1.23	N.A.	1.38	1.39	1.26	1.18	1.12	1.24	1.33
56 Stewart	1.15	N.A.	1.30	1.34	N.A.	N.A.	1.09	1.19	1.21
NECHAKO									
57 Smithers-Houston	1.42	2.13	1.67	1.67	1.22	1.28	1.20	1.41	1.54
58 Burns Lake	1.28	1.62	1.46	1.37	N.A.	1.17	1.13	1.26	1.32
59 Vanderhoof	1.33	1.77	1.47	1.53	1.30	1.23	1.14	1.29	1.46
60 Stikine	1.20	1.70	1.22	1.40	1.20	N.A.	1.13	1.30	1.33
NORTHEAST									
61 Dawson Creek	1.35	2.21	1.64	1.63	1.24	1.28	1.19	1.35	1.43
62 Fort St. John	1.32	2.24	1.68	1.57	1.25	1.26	1.20	1.33	1.47
63 Ft. Nelson	1.37	N.A.	1.49	1.48	1.18	1.23	1.20	1.30	1.34

3.3 Applications

3.3.1 General Introduction

Several examples that illustrate the ways in which the ratios can be used as multipliers to estimate impacts are presented in the following sections. ***Please note that the examples given are entirely fictitious, with places and industry changes selected essentially at random, and the numbers used have been pulled out of thin air.***

3.3.2 Simple Example

Suppose that a shellfish farming operation has been approved for the Port Hardy area. It is expected to employ 25 people directly once it is fully operational. What are the economic implications?

As noted earlier, shellfish farming is considered part of Agriculture in the NAICS classification scheme. Therefore, the relevant employment ratios are those for Agriculture in the Port Hardy area, namely,

Indirect: 1.13

Indirect plus Induced (with Safety Net): 1.18

Indirect plus Induced (no Safety Net): 1.25

The indirect ratio (used as a multiplier) tells us that there will be another 0.13 x 25 = 3.25 jobs created in the Port Hardy area by the shell-fish farming operation spending money in local businesses. If we assume that no new people move to the community because of these new job opportunities (both direct and indirect - in other words that the new jobs are filled by laid off fishermen or loggers), then the incremental spending caused by this boost in incomes will result in another 1.18 – 1.13 = .05 x 25 = 1.25 jobs in the nonbasic sector – maybe one fulltime position in the local supermarket and a part-time position in a fast-food restaurant.

However, if all the new workers come from outside the community, so that all of their spending is new, the effects are larger: 1.25 – 1.13 = .12 x 25 = 2.75 new jobs in the nonbasic sector.

Probably, the impacts on the nonbasic sector will lie between the extremes of 1.25 and 2.75 because some of the new hires will be people from elsewhere with relevant experience and some will be unemployed locals.

3.3.3 Example which examines two industries simultaneously

Assume that the Squamish area is losing logging employment because of a depleted timber supply in the area and, at the same time, is experiencing considerable growth in tourism because of its natural beauty and the announcement of the 2010 Winter Olympics.

To be specific, suppose that our crystal ball tells us that next year there will be 150 fewer logging positions, and, because of increased tourism opportunities, there will be another 300 people employed in jobs, which support the tourist industry. What will be the net effects of these changes on the area?

First, find the relevant multipliers from Tables 3.1, 3.2 and 3.3. They are displayed for convenience in Table 3.4.

Table 3.4 Employment Impact Ratios for Squamish Area

	Logging	Tourism
Indirect	1.21	1.07
Indirect plus Induced (SN)	1.32	1.13
Indirect plus Induced (NSN)	1.49	1.23

Since we don't know precisely how the displaced loggers will react (retire?, move away?, go on EI?, change professions?...?) or where the new tourist workers will come from, let's assume that the true Indirect plus Induced multipliers in each case correspond to 50% SN and 50% NSN, or 1.40 for Logging and 1.18 for Tourism.

With these simplifying assumptions the 150 jobs lost in logging will have a negative employment impact of 150 x 1.4 = 210 jobs. On the other hand, the 300 new jobs in Tourism will have a total positive employment impact of 300 x 1.18 = 354 jobs. Therefore, the net effect of both expected changes will be an increase in employment of 354 - 210 = 144 jobs.

It should be noted that the jobs gained and the jobs lost are not in the same industries, and that the skills required in the new jobs may not be held by the displaced workers, necessitating considerable employment flux in the area - such things need to be considered, but they are outside the scope of this simple economic model.

Before we leave this example, there are a couple more questions that might be asked. One would be: can we use the multipliers to figure out the trade-off between direct jobs in Logging and those in Tourism? Or, put another way, how many tourist workers does it take to replace one logger, assuming that our trade-off condition is that total employment in the area remains the same?

For simplicity, assume that the midpoint multipliers are used: 1.40 for Logging and 1.18 for Tourism. Assume that 1 direct job is lost in Logging. Then the total employment declines by 1.4. Assume that x direct jobs in Tourism are required to restore employment equilibrium. Then, 1.18 x = 1.40 or x = 1.40/1.18 = ~ 1.19.

So this analysis suggests that it takes roughly 1.2 jobs in tourism to replace each logging job lost.

3.3.4 Example where both Employment Income and Non-Employment Income are Considered

When reading this section, it might be helpful to refer to Figure 2.1 on page 7, the graphical presentation of the basic and non-basic sectors.

To measure the impact on the number of jobs in a community resulting from an influx of non-employment income (transfer payments, investment income, etc.), an alternative methodology is required to that used in previous examples which measured the impact of an influx of basic sector jobs. An extra step must be taken which is to estimate the nonbasic income that would be generated from the expenditure of non-employment income and then convert that non-basic income into non-basic jobs.

This next example shows how to calculate the economic impact of a decrease of 20 logging jobs in the Nelson area at the same time as an increase of 50 typical senior citizens in the same area receiving non-employment income.

Consider first the impacts of the reduction in logging employment. The employment ratios for the logging industry in the Nelson area given in Tables 3.1, 3.2 and 3.3, are reproduced below.

Indirect 1.17

Indirect plus Induced (with Safety Net/No migration) 1.27

Indirect plus Induced (No Safety Net/with migration) 1.42

What this means is that the direct job loss of 20 will lead to an estimated loss of

$20 \times (1.17 - 1) = 3.4$ indirect jobs

Even under the assumption that all displaced workers stay in the community and draw employment insurance, there could be an additional loss of

$20 \times (1.27 - 1.17) = 2.0$ Induced jobs

If the situation persists and all displaced workers leave the Nelson area to seek employment elsewhere, there could be an additional loss of

$20 \times (1.42 - 1.27) = 3.0$ Induced jobs

as a result of reduced spending in the community. Thus, with a loss of 20 direct jobs in the basic sector, the community would lose either 5.4 indirect and induced jobs under the safety net assumption or 8.4 jobs with no safety net.

Now let us consider the economic gains associated with the in-migration of 50 seniors. It is assumed they would bring with them, basic non-employment income, such as CPP benefits, investment income, etc. and their spending of that income on goods and services in the community would create "induced" jobs. To determine how many induced jobs

would be created, we first need to estimate the non-basic income their expenditures would generate.

To do that, it is necessary to estimate the after-tax incomes of these people. Data from the 2001 Census[10] suggests an average annual income for British Columbians, age 65 and over, of $24,864. Using the same reasoning and methodology described in Appendix A.7 of this report yields an average after-tax income of $22,258[11] for seniors. Thus, if Nelson gains 50 seniors, the total increase in basic after-tax income would be:

50 x $22,258 = $1,112,900

We also need two additional pieces of information on the Nelson area -- the nonbasic income ratio (non-basic income divided by basic income), and the average nonbasic after-tax income in the community. Fortunately, that information is available from the database developed for this project and the results are compiled in Tables 3.5 and 3.6.

Table 3.5 indicates that the nonbasic income ratio for the Nelson Area is 0.164. That means that for every dollar generated from activities in the basic sector, be it from employment income or non-employment income, an additional $0.164 of nonbasic income is generated.

Multiplying the basic income of the seniors ($1,112,900) by the nonbasic income ratio (0.164), we find that the corresponding increase in nonbasic after-tax income resulting from the spending of these seniors is:

0.164 x $1,112,900 = $182,516

Using the community average of nonbasic after tax income in the Nelson Area of $19,105, (found in Table 3.6), we can assume that the $182,516 nonbasic income generated by the seniors demand for goods and services would create:

$182,516/$19,105 = 9.5 induced jobs, or 0.19 of an induced job per senior (i.e. 9.5/50= 0.19).

Thus to replace all the jobs lost from the loss of 20 direct jobs in the forest sector, plus the 3.4 indirect jobs and 5.0 induced jobs, for a total of 28.4 jobs, it would take 149 seniors to move into Nelson and start spending their non-employment income.

28.4 jobs lost / 0.19 jobs created per senior = 149 seniors

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[10] The specific reference for this is 2001 Census – Statistics Canada 95F0431XCB01003

[11] Here as elsewhere in this work we assume that local spending equals after-tax income. In fact, of course, senior citizens may be drawing funds from accumulated wealth and spending more than their incomes. The counter-argument would be that seniors are no longer accumulating assets and may spend significant amounts of time outside the local area, which would make their local spending less than their income.

Note that this example assumed that all the new induced jobs resulting from the influx of seniors are filled by in-migrants (no safety net). To apply another twist to the non-employment income economic impact calculation, below we look at the same example of 50 seniors moving into Nelson, but this time under the safety-net assumption, that is, all the new induced jobs are filled by workers who previously lived in the community but were unemployed and receiving EI.

3.3.5 Example Incorporating the Safety Net Assumption

To determine the impact of this assumption, it is necessary to first calculate how many induced jobs the 9.5 ex-unemployed would have supported through the expenditure of their income from employment insurance.

We assume an average EI benefit of $10,000 per year. Thus the 9.5 unemployed would have generated a total of

9.5 x $10,000 = $95,000 basic non-employment income

With the non-basic income ratio equal to 0.164, the nonbasic income generated would be $15,580

0.164 x $95,000 = $15,580

Given a nonbasic average income of $19,105, the 9.5 unemployed would have generated less than 1 induced job ((0.82)

$15,580/$19,105 = 0.82 induced jobs

So if the safety net assumption is used, there will be a net of 8.7 induced jobs generated when 50 seniors move into the area

9.5 jobs - 0.82 jobs = 8.7 jobs,

instead of the 9.5 jobs generated under the non-safety net assumption.

While these calculations suggest that a sufficient number of seniors would keep the community as a whole viable, it is unlikely that the loggers and indirect employees would have the appropriate aptitudes and skills to fill the new non-basic positions – or that they would be willing to assume them, given the reduction in average income levels.

Table 3.5
2001 Nonbasic Income Ratios* Based on After-Tax Income

VANCOUVER ISLAND/COAST	
1 Gulf Islands	0.142
2 Victoria	0.221
3 Sooke-Port Renfrew	0.204
4 Duncan	0.181
5 Lake Cowichan	0.141
6 Ladysmith	0.169
7 Nanaimo	0.247
8 Parksville-Qualicum	0.159
9 Alberni	0.100
10 Courtenay-Comox	0.171
11 Campbell River	0.149
12 Bute Inlet	0.099
13 Powell River	0.132
14 Alert Bay	0.069
15 Port Hardy	0.076
16 Central Coast	0.085
MAINLAND/SOUTHWEST	
17 Hope-Fraser Canyon	0.121
18 Chilliwack	0.224
19 Kent-Harrison	0.109
20 Matsqui-Abbottsford	0.272
21 Pitt Meadows-Maple Ridge	0.310
22 Mission	0.241
23 Sunshine Coast	0.179
24 Squamish	0.191
25 Lillooet	0.087
THOMPSON-OKANAGAN	
26 Princeton	0.108
27 Oliver-Osoyoos	0.106
28 Penticton	0.186
29 Ashcroft	0.076
30 Merritt	0.092
31 Kamloops	0.234
32 North Thompson	0.055
33 Peachland	0.233
34 Kelowna	0.263
35 Vernon	0.225
36 Spallumcheen	0.171
37 Salmon Arm	0.170
38 Golden	0.129
39 Revelstoke	0.128
KOOTENAY	
40 Fernie	0.088
41 Cranbrook-Kimberley	0.202
42 Invermere	0.132
43 Castlegar-Arrow Lakes	0.158
44 Nelson	0.164
45 Creston	0.141
46 Grand Forks-Greenwood	0.124
47 Trail-Rossland	0.154
CARIBOO	
48 Williams Lake	0.139
49 Quesnel	0.139
50 Prince George	0.244
51 McBride-Valemount	0.071
NORTH COAST	
52 Queen Charlotte Island	0.143
53 Prince Rupert	0.162
54 Kitimat-Terrace	0.151
55 Hazelton	0.082
56 Stewart	0.049
NECHAKO	
57 Smithers-Houston	0.159
58 Burns Lake	0.092
59 Vanderhoof	0.095
60 Stikine	0.046
NORTHEAST	
61 Dawson Creek	0.157
62 Fort St. John	0.179
63 Ft. Nelson	0.158

*Total nonbasic income divided by total basic income

Table 3.6
Average Nonbasic After-Tax Income, 2001

VANCOUVER ISLAND/COAST	
1 Gulf Islands	$20,328
2 Victoria	$23,673
3 Sooke-Port Renfrew	$20,695
4 Duncan	$20,154
5 Lake Cowichan	$18,072
6 Ladysmith	$8,985
7 Nanaimo	$20,368
8 Parksville-Qualicum	$20,982
9 Alberni	$19,073
10 Courtenay-Comox	$19,683
11 Campbell River	$19,518
12 Bute Inlet	$15,727
13 Powell River	$17,943
14 Alert Bay	$20,781
15 Port Hardy	$18,836
16 Central Coast	$19,182
MAINLAND/SOUTHWEST	
17 Hope-Fraser Canyon	$20,204
18 Chilliwack	$21,011
19 Kent-Harrison	$24,346
20 Matsqui-Abbottsford	$21,596
21 Pitt Meadows-Maple Ridge	$24,123
22 Mission	$21,751
23 Sunshine Coast	$20,189
24 Squamish	$29,191
25 Lillooet	$16,258
THOMPSON-OKANAGAN	
26 Princeton	$16,363
27 Oliver-Osoyoos	$17,776
28 Penticton	$21,172
29 Ashcroft	$16,686
30 Merritt	$18,225
31 Kamloops	$20,721
32 North Thompson	$16,221
33 Peachland	$22,159
34 Kelowna	$23,077
35 Vernon	$20,949
36 Spallumcheen	$18,750
37 Salmon Arm	$18,800
38 Golden	$23,356
39 Revelstoke	$20,814
KOOTENAY	
40 Fernie	$19,410
41 Cranbrook-Kimberley	$21,932
42 Invermere	$19,322
43 Castlegar-Arrow Lakes	$19,730
44 Nelson	$19,105
45 Creston	$17,593
46 Grand Forks-Greenwood	$17,922
47 Trail-Rossland	$18,651
CARIBOO	
48 Williams Lake	$19,428
49 Quesnel	$17,779
50 Prince George	$22,774
51 McBride-Valemount	$14,963
NORTH COAST	
52 Queen Charlotte Island	$19,534
53 Prince Rupert	$21,445
54 Kitimat-Terrace	$21,273
55 Hazelton	$16,755
56 Stewart	$16,151
NECHAKO	
57 Smithers-Houston	$21,944
58 Burns Lake	$20,038
59 Vanderhoof	$17,613
60 Stikine	$9,466
NORTHEAST	
61 Dawson Creek	$21,050
62 Fort St. John	$24,427
63 Ft. Nelson	$27,883

4. Discussion of Changes 1991 - 1996 - 2001

4.1 Dependencies

Appendix D shows all of the dependencies estimated for the 63 local areas of this report for each of the census years 1991, 1996 and 2001. Not all sectors were calculated in each year, so these results have been aggregated to a common sectoral basis. Readers are cautioned in viewing these tables that some of the shifts from Other Non-employment Income (ONEI) to Transfer Payments (TRAN) in the interval from 1991 to 1996 may be at least partly the result of the way that the data relating to non-employment income was interpreted for these two years. For the major purposes of this study the more relevant statistic is probably the total non-employment income dependency, i.e. TRAN + ONEI and this statistic has remained fairly stable for most communities over the study period.

A natural question to ask is just how the dependencies have changed across all communities in the province over the period studied. One way to answer this is just to compute the mean dependency across all 63 local areas for each period. The results of this calculation are shown in Table 4.1.

Table 4.1 - Mean Income Dependencies for all 63 Local Areas

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	18	4	1	3	7	25	12	18	12
1996	21	4	2	3	7	24	12	16	10
1991	18	6	1	3	5	19	15	13	20

Perhaps not too surprisingly, averaged across the whole province, these figures show considerable stability. Community dependence on Forestry appears to have grown from 1991 to 1996 but then fell back again to 1991 levels in 2001. Mining and mineral processing dropped by 33% from 1991 to 1996 and has remained steady thereafter. Fishing and trapping increased in 1996 but then fell back to its 1991 level in 2001. Dependence on Agriculture and food processing has remained very steady over the entire decade. B. C. community's dependence on Tourism grew about 40% from 1991 to 1996, but has remained stable thereafter. Dependence on public sector activities has grown over the decade, from 19% in 1991 to 25% in 2001.

Each reader of this report will have their own particular places of interest and will want to interpret the changes in those places in their own way and according to their own knowledge of the local situation. Table 4.2 shows where the largest changes have taken place in the province.

Table 4.2 Selected Areas and Sectors where the Largest Dependency Changes have taken place

Area	Sector	2001	1996	1991
Stewart	Mining & Min Proc	4	11	43
Stewart	Public Sector	41	35	22
Squamish	Tourism	29	26	14
Port Hardy	Min & Min Proc	1	5	13
Port Hardy	Forestry	59	51	37
Hazleton	Forestry	29	37	39
Stewart	Forestry	9	25	18
Fort St. John	Min & Min Proc	32	26	23
Prince Rupert	Fishing & Trap.	11	15	18
Queen Charlottes	Public Sector	30	32	36
Matsqui-Abbotsford	Agric & Food	11	10	7
McBride-Valemount	Agric. & Food	2	4	6
Stewart	Tourism	5	7	8
Stewart	Fishing & Trap.	3	3	1

When interpreting Table 4.2, or any of these changes in dependencies for that matter, it is important to remember that the dependency is the share of income that a particular sector provides for a community. However, it does not follow automatically that just because the dependency has increased (or decreased) the absolute amount of income provided by that sector has increased (or decreased); only that its share of income ***relative to other sectors*** has increased (or decreased). Since the dependencies have to add up to 100% in each year it should not be too surprising that the same communities often occur more than once in Table 4.2 - where one sector has increased (or decreased) significantly others must also change to maintain the 100% total, even if, in absolute terms, they have not changed at all.

By the same reasoning, the dependency figures alone, and changes in them, do not say anything about the changing economic health of the community. To use the pie analogy, the dependencies tell us the relative size of the pie pieces provided by each basic sector, but these figures alone say nothing about whether the pie has gotten bigger or smaller - whether the community has gotten more prosperous in 2001 than it was in 1991 or vice versa.

Nevertheless, some of the changes in Table 4.2 are striking and worthy of comment. They put numbers to what knowledgeable people knew already. The drop in mining dependence in the Port Hardy area coincides with the closure of the mine there. The increase in Tourism dependence in the Squamish area is no doubt due to the development of Whistler as a world-class tourist destination. The Stewart area has seen more economic changes than any other area in the province over the last decade, with significant declines in Mining and Forestry and to a lesser extent in Tourism.

There have been some changes in the dominant basic sector for some local areas between 1996 and 2001. These can be seen in Map 4.1.

4.2 Diversity and Forest Vulnerability

4.2.1 Diversity Indices

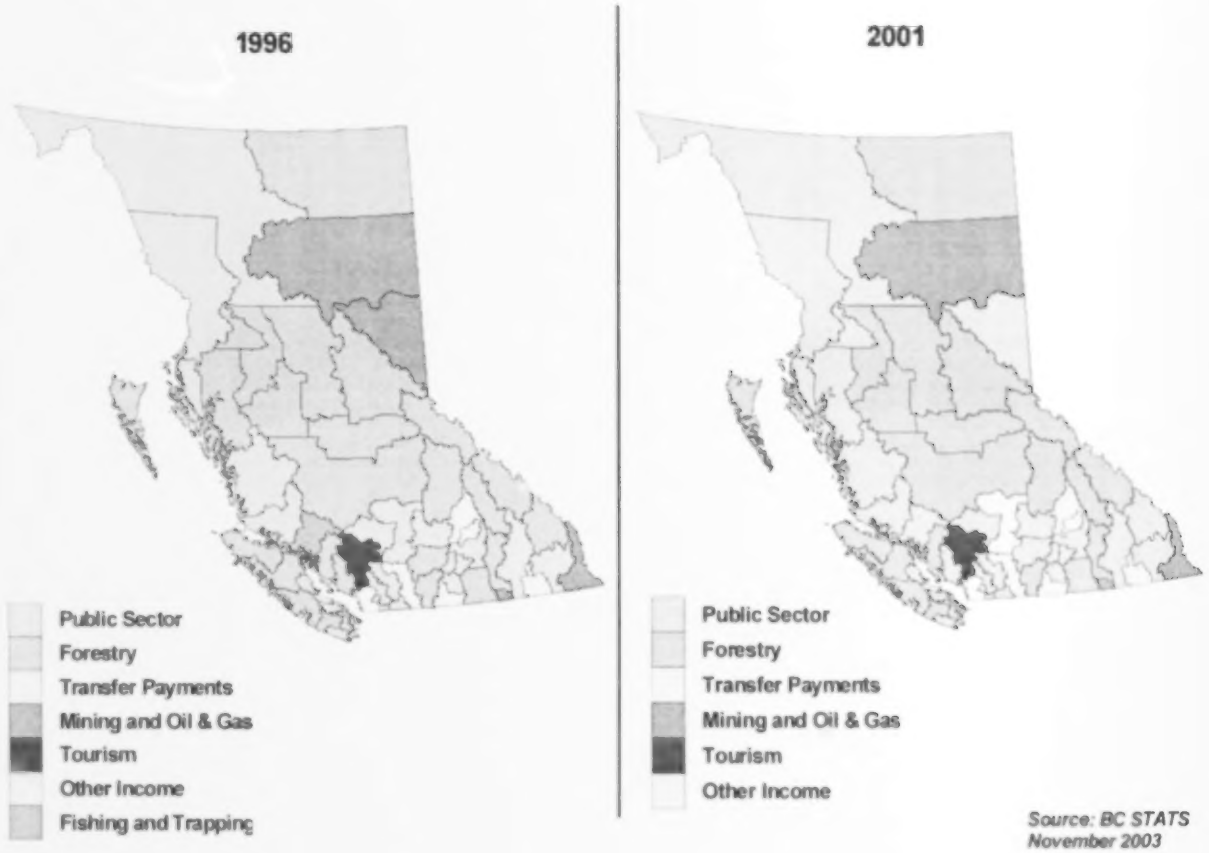
Table 4.3 displays for each local area the diversity indices for each of the three years being compared. The mean values for diversity in the three years are: 67 in 2001, 67 in 1996, and 72 in 1991. The difference between 1991 and the other two years may mean that communities in British Columbia have become less diverse over the decade, but it may also reflect methodological differences between the 1991 calculations and those for the later years.

In any event, it is noteworthy that the diversity of some communities has decreased far more than the average decline. These include Port Hardy (down by 14), Central Coast (15), Princeton (14), Oliver-Osoyoos (11), Merritt (12), Prince Rupert (10), Stewart (11), Smithers-Houston (10), and Vanderhoof (11).

A few communities have actually increased in diversity despite the general decline. These include Pitt Meadows-Maple Ridge (up by 4), Golden (4) and, best of all, Fernie that went from 52 in 1991 to 57 in 1996 to 61 in 2001.

A final caveat here is that while, in general, diversity is probably good it is no guarantee of prosperity. A one-industry town that loses its industry probably has increasing diversity as it struggles to avoid becoming a ghost town.

Map 4.1 Dominant Income Sources



Source: BC STATS
November 2003

Table 4.3
Diversity Indices - 2001 - 1996 - 1991

VANCOUVER ISLAND/COAST	2001	1996	1991
1 Gulf Islands	66	66	71
2 Victoria	58	59	65
3 Sooke-Port Renfrew	60	61	66
4 Duncan	69	70	75
5 Lake Cowichan	63	64	67
6 Ladysmith	69	71	71
7 Nanaimo	69	72	75
8 Parksville-Qualicum	67	71	75
9 Alberni	65	63	71
10 Courtenay-Comox	68	70	74
11 Campbell River	70	66	71
12 Bute Inlet	75	76	81
13 Powell River	67	65	67
14 Alert Bay	65	67	73
15 Port Hardy	52	52	66
16 Central Coast	60	60	75
MAINLAND/SOUTHWEST			
17 Hope-Fraser Canyon	71	71	77
18 Chilliwack	70	68	73
19 Kent-Harrison	71	70	79
20 Matsqui-Abbottsford	73	74	74
21 Pitt Meadows-Maple Ridge	70	71	66
22 Mission	72	73	73
23 Sunshine Coast	72	72	76
24 Squamish	69	71	72
25 Lillooet	67	64	73
THOMPSON-OKANAGAN			
26 Princeton	65	72	79
27 Oliver-Osoyoos	66	68	77
28 Penticton	68	69	75
29 Ashcroft	76	77	81
30 Merritt	68	70	80
31 Kamloops	72	74	75
32 North Thompson	61	64	66
33 Peachland	73	77	73
34 Kelowna	73	73	73
35 Vernon	72	74	77
36 Spallumcheen	75	75	79
37 Salmon Arm	73	73	77
38 Golden	72	72	68
39 Revelstoke	73	74	71

KOOTENAY	2001	1996	1991
40 Fernie	61	57	52
41 Cranbrook-Kimberley	74	73	76
42 Invermere	74	73	76
43 Castlegar-Arrow Lakes	69	67	74
44 Nelson	69	68	75
45 Creston	68	70	77
46 Grand Forks-Greenwood	69	70	75
47 Trail-Rossland	66	67	69
CARIBOO			
48 Williams Lake	67	68	72
49 Quesnel	57	56	63
50 Prince George	64	65	68
51 McBride-Valemount	68	61	68
NORTH COAST			
52 Queen Charlotte Island	62	59	61
53 Prince Rupert	66	69	76
54 Kitimat-Terrace	70	71	75
55 Hazelton	59	56	60
56 Stewart	59	62	70
NECHAKO			
57 Smithers-Houston	63	64	73
58 Burns Lake	60	58	65
59 Vanderhoof	56	56	67
60 Stikine	58	48	54
NORTHEAST			
61 Dawson Creek	74	72	74
62 Fort St. John	70	75	74
63 Ft. Nelson	68	56	69

4.2.2 Forest Vulnerability over the decade

Table 4.4 displays forest vulnerability indices (FVI) for each local area for each of the three years, 2001, 1996 and 1991. As discussed in Section 2.3 the FVI is a normalized index – the most vulnerable place by this measure is set to 100 and the least vulnerable to zero and the other areas fall into place between these two extremes. In 2001 the most vulnerable was Port Hardy and the least vulnerable was Victoria. It was decided that comparisons between years would be more meaningful if these same "goal posts" were maintained, even for the other years. Thus, the figures given in Table 4.4 differ slightly from those given in Table 3.4.4 of the 1999 report though their relative position is the same. There were no FVI published in the 1995 report (reporting on 1991).

The mean FVI over the 63 areas is 25 in 2001, 29 in 1996, and 21 in 1991. Thus, the communities in B. C., on average were least vulnerable to forest sector downturns in 1991. The vulnerability increased significantly in 1996, and in 2001 the vulnerability lessened but not back to the 1991 level.

Individual areas showed a lot more variation. However, quite a few followed the same general pattern as the province, with an increase in vulnerability from 1991 to 1996 and then a decrease in 2001 but not back to the 1991 level. These areas include Ladysmith, Alberni, Port Hardy, Merritt, Quesnel, Prince George, the Queen Charlottes, Smithers-Houston, Burns Lake, and Vanderhoof.

Six local areas show a steady increase in forest sector vulnerability over the period studied. These places are Princeton, Ashcroft, North Thompson, Grand Forks-Greenwood, Williams Lake, and Prince Rupert. Four local areas had some increase in vulnerability in the period 1991 to 1996, but in 2001 were less vulnerable than they had been in 1991. These places are Powell River, Hazelton, Stewart, and the Stikine region. Finally, two areas in the province had significant declines in forest sector vulnerability during each 5-year period. These places are Sooke-Port Renfrew and Golden.

Table 4.4
Forest Vulnerability Indices - 2001 -1996 - 1991

	2001	1996	1991
1Gulf Islands	0	0	2
2Victoria	0	1	1
3Sooke-Port Renfrew	3	9	10
4Duncan	22	25	19
5Lake Cowichan	48	50	48
6Ladysmith	25	29	18
7Nanaimo	13	14	10
8Parksville-Qualicum	9	9	8
9Alberni	45	57	37
10Courtenay-Comox	13	14	11
11Campbell River	36	50	40
12Bute Inlet	4	10	6
13Powell River	36	49	48
14Alert Bay	10	24	11
15Port Hardy	100	104	53
16Central Coast EDA	21	43	21
17Hope-Fraser Canyon	16	19	13
18Chilliwack EDA	6	6	5
19Kent-Harrison EDA	6	12	6
20Matsqui-Abbottsford	7	5	4
21Pitt Meadows-Maple	8	7	7
22Mission	13	13	16
23Sunshine Coast	22	23	19
24Squamish	14	16	16
25Lillooet	28	43	27
26Princeton	40	27	16
27Oliver-Osoyoos	7	6	2
28Penticton	6	5	3
29Ashcroft	17	14	9
30Merritt	32	33	15
31Kamloops	11	11	9
32North Thompson	65	55	53
33Peachland	4	5	4
34Kelowna	4	3	3
35Vernon	10	14	8

	2001	1996	1991
36Spallumcheen	12	13	12
37Salmon Arm	11	12	13
38Golden	28	31	44
39Revelstoke	23	24	18
40Fernie	12	13	13
41Cranbrook-Kimberley	14	18	12
42Invermere	18	23	20
43Castlegar-Arrow Lakes	31	41	26
44Nelson	15	16	10
45Creston	12	13	9
46Grand Forks-Greenwood	32	30	23
47Trail-Rossland	3	5	2
48Williams Lake	42	42	31
49Quesnel	78	85	61
50Prince George	47	48	40
51McBride-Valemount	40	64	44
52Queen Charlotte Island	52	60	42
53Prince Rupert	31	28	16
54Kitimat-Terrace	23	29	21
55Hazelton	51	68	66
56Stewart	14	41	22
57Smithers-Houston	53	56	29
58Burns Lake	61	73	48
59Vanderhoof	81	86	48
60Stikine	1	11	8
61Dawson Creek	17	15	13
62Fort St. John	8	10	7
63Ft. Nelson	41	85	37

4.3 Employment Impact Ratios

The employment impact ratios for a particular industry in a particular place can be expected to change somewhat as the area grows (or declines) in population and also as a result of technological changes or restructuring in the industry. For example, if services that were formerly done "in-house" are contracted out, then the apparent ratios will increase even if total employment does not change.

However, at the same time, there is a certain amount of trepidation associated with examining changes in the ratios at different time periods, as we are about to do. The reason for this is that in order to recommend use of the ratios as employment multipliers they have to be reasonably stable over time and in the face of other changes. How can we use the ratios to predict the effects of changes in direct basic employment if those ratios themselves change in unpredictable ways as a result of the same kind of changes? The answer to this may be that we need a more complex model.

The average employment impact ratios for each of the 3 years studied are displayed in Table 4.5 for selected industries.

Table 4.5 Average Employment Impact Ratios for 2001, 1996 and 1991

	Indirect			Indirect + Induced (No Safety Net)		
Sector	**2001**	**1996**	**1991**	**2001**	**1996**	**1991**
Logging	1.17	1.22	1.27	1.42	1.48	1.61
Pulp & Paper	1.67	1.48	1.38	2.09	1.86	1.82
Wood Mfg.	1.28	1.21	1.17	1.58	1.47	1.47
Mining	1.30	1.37	1.17	1.62	1.66	1.54
Agriculture	1.14	1.12	1.06	1.28	1.24	1.23
Tourism	1.07	1.06	1.01	1.19	1.16	1.13
Public Sector	1.13	1.07	1.01	1.36	1.27	1.25
Construction	1.25	1.23	1.20	1.49	1.43	1.47

With only logging as a notable exception, almost all of the ratios have trended upward over the study period. Part of this may be due to greater modeling efforts to capture indirect and nonbasic activities attributable to the major basic sectors.[12] To the extent that the changes are real, the

[12] See, for example, the discussion in Appendix A.8.

easiest interpretation is that these industries have reduced their own labour force (per unit of output) but at the cost of a greater reliance on the purchase of off-site services.

In the case of logging, the inclusion of transportation of raw fiber as part of direct in the 1996 and 2001 analyses (so-called "truck logging" in the interior, and barging on the coast) is certainly part of the reason for the change since 1991, but it does not explain the continuation of the downward trend in the ratios between 1996 and 2001. It may be that the logging industry, in its efforts to reduce costs, has found ways to reduce expenditures on outside services that exceed any reductions in its own workforce.

References

1. Horne, G. and C. Powell, British Columbia Local Area Economic Dependencies and Impact Ratios, B.C. Ministry of Finance and Corporate Relations, February 1995.
2. Horne, G., British Columbia Local Area Economic Dependencies and Impact Ratios – 1996, BC Stats, Ministry of Finance and Corporate Relations, May 1999.
3. Beckstead, D. and M. Brown, From Labrador City to Toronto: The industrial diversity of Canadian cities, 1992-2002, Statistics Canada Catalogue no. 11-624-MIE – No. 003, October 2003.
4. Statistics Canada, British Columbia Survey of Household Spending 2000, Statistics Canada 62F0031, December 2001.
5. Canada Customs and Revenue Agency, Income Statistics 2003 – 2001 tax year, Sample data for British Columbia.

Appendix A - Methodology and Related Issues

A.1 Overview

The methodology that has been used to produce the results of this report and its predecessors is referred to as the economic base method. Its fundamental premise is that the economy of a community can be represented by income flows that can be classified as *basic* or *nonbasic*, depending on where the income comes from. Basic income is assumed to flow into the community from the outside world, usually in response to goods and services produced in the community and exported from it. Outsiders may also visit the community as tourists and spend money that they have earned elsewhere. Incomes earned by public servants are also considered basic because, even though their services are provided locally, the money used to provide these incomes is independent of the local tax base. Similarly, transfer payments from senior governments - pensions, employment insurance payments, and income assistance - are also considered basic. Finally, investment income has been classified as basic as well.

On the other hand, nonbasic income is paid to individuals in the community for goods and services they provide to other individuals in the community, where the relevant commodities are actually purchased by individuals in the community. It is the latter consideration that excludes most public community services (mainly health care services and public education) from the nonbasic category. In modern Canadian life these services are provided from general taxpayer revenues and are not paid for directly by the users.

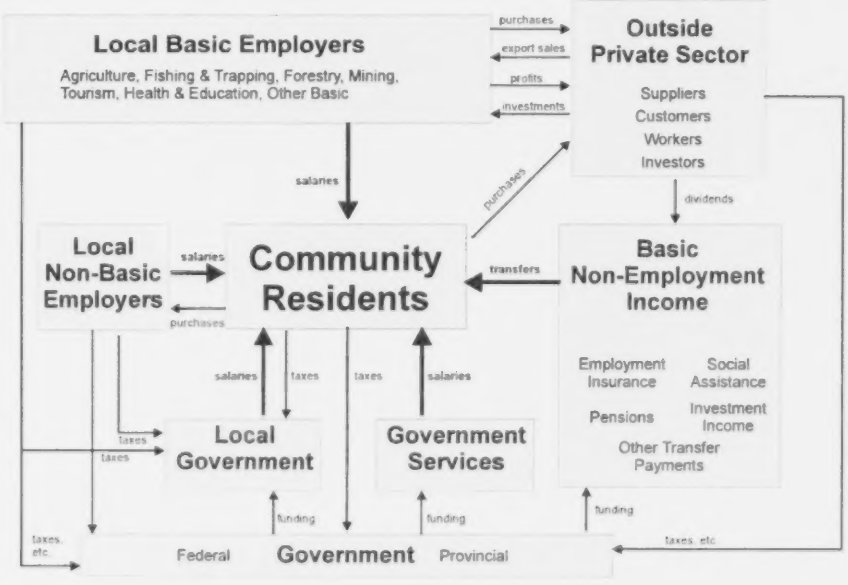


Figure A.1 -- Community Economic Interactions

Figure A.1 provides a good, albeit complex, depiction of the many interactions between the economic components of a community from the perspective of economic base methodology. Each of the arrows in this diagram represents a flow of dollars. Community residents are at the centre of the diagram and receive income from a variety of sources. They, in turn, use these incomes to make purchases and pay taxes. To the extent that they make purchases from the outside world, they need sufficient salaries from basic employers or other outside sources to enable them to make the expenditures.

If we assume initially that the components in the diagram are in some kind of rough equilibrium we can consider what happens internally when external changes occur. For example, if basic employment declines then basic incomes will decline. In the short run, transfers will increase as displaced workers begin to draw employment insurance, but not enough to offset the loss in basic salaries. One of the key assumptions underlying economic base impact assessment models is that the purchases by community residents will then decline, both from the outside private sector and from local nonbasic businesses. The latter decline will in turn further reduce the total wages paid to community residents who work in the nonbasic sectors. An implicit assumption here is that the spending split between local purchases and imports will remain the same: the relative self-sufficiency of the community does not change.

The same kind of reasoning can be used to examine situations where basic income into a community increases.[13] As basic income increases, local spending will increase and nonbasic employment will rise to meet these increased demands.

There has often been misunderstanding of the economic base model and it is an easy model to misuse. The key to proper application of the model is in the correct allocation of activities to the basic and nonbasic sectors. Many activities are relatively easy to allocate. For example, in British Columbia, virtually all resource-based activity is basic since all products of this activity are exported, usually from the province, and certainly from the local area. On the other hand, many local services are almost entirely nonbasic – they exist in smaller communities only to serve the needs of the resident population. Banking services, dry-cleaning, and hair-cutting establishments are in this category.[14]

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[13] This may come about through an increase in basic employment or, as an alternative example, through the inflow of a significant number of wealthy seniors.

[14] In some places tourists may make some use of these businesses, and part of the procedure in this study is to properly allocate that share of activity to Tourism (this

However, there are definitely activities that are demanded in varying amounts by local residents, by local basic business, by local nonbasic business, and by tourists. Transportation is probably the best example of this. Local residents ride buses, hire taxis, and buy gasoline and other related automotive services. So do tourists. Trucking firms serve local businesses of all sorts, bringing products in for retail stores to sell, and taking products out for export. Similarly, retail sales are primarily to local residents in most communities, but tourism affects retail sales, and even some businesses purchase significant amounts of supplies from retail establishments. The greatest challenge in this project has been to accurately allocate these "mixed" services as basic or nonbasic, and if basic to assign them to the correct industry.

The remainder of this Appendix discusses in some detail some of the methods that have been used to produce the results presented in Chapters 2 and 3. Section A.2 identifies and discusses the various data sources used as raw material for this work. Section A.3 defines the basic industries identified in this report in terms of the North American Industrial Classification System (NAICS) used by the 2001 Census.

Sections A.4, A.5, and A.6 discuss particular aspects of the allocation process alluded to in the previous paragraph. Because the premise is that local spending drives the nonbasic sector and it seems logical that spending is more likely to be correlated with after-tax income than with gross income, a simple formula for estimating after-tax incomes has been derived and used for this work. It is presented and discussed briefly in Section A.7.

Probably the most significant change in the results from previous studies is the widespread increase in the numbers of people employed in the business services sector. Furthermore, it is, initially at least, unclear who these people are working for. The demands by local basic businesses and by local residents, at least as reckoned by the methods of this study, didn't seem to justify the supply. Section A.8 discusses this issue in more detail and presents a logical model development that somewhat ameliorates the situation.

While this study has kept essentially the same industry set as previous studies to facilitate comparisons over time, the film production and sound recording industry has been getting a lot of attention over the last few years, so it was decided to isolate that industry as a basic sector to see how it compares with traditional sectors in the various parts of the province.

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procedure is explained in detail in A.5), but for the most part and in most places these activities are expected to serve local residents.

A.2 Data Sources

As stated repeatedly in this report, the principal source of data used for this study is the 2001 Canadian Census, specifically, the long form which is received by 20% of households, randomly selected. This year, for the first time, BC Stats ordered data from Statistics Canada specifically tailored to meet the needs of this study. In particular, the local areas as defined for previous studies were identified and the data was purchased precisely for these areas. There are 63 local areas defined, and the Census subdivisions that comprise each of these areas are listed in Appendix E.

Besides the geography there are two other data dimensions of interest. One is the precise specification of the economic variables themselves, and the other is the set of industries that provide the employment and incomes used in this study. With respect to the former, while there are other possibilities, it was decided that the best variables to use for this study were the Total Employment Income for each industry in each local area, and the count of the total number of individuals who contributed to that income total. This means that some individuals who only worked part-time or part of a year will be in the count and their income will be in the total. This, in turn, means that incomes developed from this study may be less than comparable full-time full-year incomes for some industries, and that employment may consequently be over-estimated. This is not ideal, but in situations like this there is no perfect solution and it was decided that this approach was nevertheless better than any of the alternatives.

The industry set was to the 4-digit level and consisted altogether of 426 categories, including the rollups to 3- and 2-digit levels. This year for the first time, the industries are classified according to NAICS (North American Industrial Classification System) rather than SIC (Standard Industrial Classification) as had been the case for earlier studies. The changes from the one system to the other are quite sweeping, but for the purpose of this study the change did not seem to make much difference. The NAICS industries used for each of the basic sectors of this study are shown in Table A.3.1.

Other data sources that have been used in this study are:

- British Columbia Visitor Study, Tourism BC, data collected in 1995/96, a series of reports, one for each of the tourism regions, published in 1998.
- 1999 British Columbia Input Output Model (BCIOM).
- British Columbia Survey of Household Spending, 2000.
- Income Statistics for British Columbia, 2001 tax year.
- Visitor '89, A Travel Survey of Visitors to British Columbia, B. C. Ministry of Tourism.

A.3 NAICS Industry Definitions

Table A.3.1 on the next page references the column headings used in Chapter 2 to the North American Industry Classification System (NAICS) industrial categories as used by Statistics Canada in conjunction with the 2001 Census. Additional information on the NAICS categories may be found from Statistics Canada Catalogue NO. 12-501-XPE *North American Industry Classification System – Canada 1997*, Ministry of Industry, 1998. Current information about NAICS can also be found at www.naics.com/search.htm.

Table A.3.1 NAICS Industry Definitions for the Basic Sectors of Table 2.1

Column Heading	NAICS Definition
Forestry FOR	113 Forestry and Logging 1153 Support activities for forestry 3211 Sawmills and wood preservation 3212 Veneer, plywood and engineered wood product manufacturing 3219 Other wood product manufacturing 322 Paper manufacturing 337 Furniture and related product manufacturing
Mining & Min Proc MIN	211 Oil and gas extraction 212 Mining (except oil and gas) 213 Support activities for mining and oil and gas extraction 219 Mining – unspecified 324 Petroleum and coal products manufacturing 331 Primary metal manufacturing
Fishing F&T	114 Fishing, hunting and trapping 3117 Seafood product preparation and packaging
Agric. & Food AGF	111-112 Farms (including aquaculture) 1150 Support activities for farms 3111 Animal food manufacturing 3112 Grain and oilseed milling 3113 Sugar and confectionary product manufacturing 3114 Fruit and vegetable preserving and specialty food manufacturing 3115 Dairy product manufacturing 3116 Meat product manufacturing 3119 Other food manufacturing 312 Beverage and tobacco product manufacturing
Tourism TOU	7211 Traveler accommodation 7212 RV (recreational vehicle) parks and recreational campgrounds + parts of Retail trade, Food services, Transportation services and Personal services
High Tech HITEC	3254 Pharmaceutical and medicine manufacturing 3259 Other chemical product manufacturing 3333 Commercial and service industry machinery manufacturing 334 Computer and electronic product manufacturing 3359 Other electrical equipment and component manufacturing 3364 Aerospace product and parts manufacturing 3391 Medical equipment and supplies manufacturing + some high-tech **services** if these seem to be autonomous
Public Sector PUB	621 Ambulatory health care services 622 Hospitals 623 Nursing and residential care facilities 61 Educational services 9111 Defense services 9112 Other federal services (9112 to 9119) 624 Social assistance 912 Provincial and territorial public administration 913 Local, municipal and regional public administration 914 Aboriginal public administration
Const. CON	23 Construction
Film Prod FILM	512 Motion picture and sound recording industries

Any direct basic activities that could not be allocated to one of the above categories was allocated to the Other (OTH) category. For a discussion of the components of Other where it is large, see Appendix C.3.

A.4 Indirect Allocation

The idea behind this is easy to explain even though the subsequent working out of the details in particular cases gets quite a bit more complicated. The BC Input Output Model (BCIOM) provides information on how much each industry in the BC economy depends on other industries as a result of direct purchases. For example, industry A, in order to produce its own output, buys goods and services from industries B, C, D, etc. The BCIOM endeavors to estimate total impacts and so in principle considers subsequent "rounds" of purchasing by industries B, C, D, etc. Here, however, we are only concerned with the first round of purchases – these are called "direct" purchases in this study. The BCIOM can also tell us how many direct jobs are associated with a given level of output from each industry.

To continue with a more concrete example consider the sawmill industry. According to the 1999 BCIOM there were 26,638 people employed in this industry. Direct purchases of goods and services by this industry produces activity in other industries, and that activity can be translated back into employment. Thus, for example, the BCIOM tells us that all sawmill activity in BC in 1999 produced 747 direct jobs in Wholesale Trade, 1,766 direct jobs in Trucking, 422 direct jobs in High Tech Services, etc.

Now suppose that we are looking at a community that has a sawmill that employs 500 people. If we assume that this is a typical sawmill (so the average provincial linkages and relationships apply) and that direct purchases are made locally, then plausible estimates of indirect employment associated with the sawmill would be:

$$\text{Wholesale Trade: } \frac{500 \times 747}{26{,}638} = 14$$

$$\text{Trucking: } \frac{500 \times 1{,}766}{26{,}638} = 33 \qquad \text{etc.}$$

That's all there is to it, in principle. The BCIOM has been used to develop a matrix that relates the number of jobs in each driven industry to the total number of jobs in each driver industry. Industries have been allocated to the "driver" and "driven" categories somewhat arbitrarily but again the idea is simple enough: driver industries are ones which export all or virtually all of their product outside the local area; driven industries on the other hand provide goods and services (mostly the latter) to the driver industries. Government is also considered as a driver even though it may not export its product because the funds that support it come from outside the area.

A.5 Tourism

The tourism industry is unique in a number of ways. From the economic base perspective it is definitely a basic industry because of the funds it brings into a community but unlike most "exporting" industries it is primarily a service industry. Furthermore, it is not a well-defined industry in NAICS. While Accommodation Services may be considered as 100% due to tourism, many other "tourist" businesses are servicing local residents as well as tourists – these businesses include restaurants, rental car agencies, taxis, and retail stores. The view taken in this study is that parts of these other businesses are within the Tourism industry, and parts are not. Establishing just how much of these industries are part of Tourism is a challenge. This section of Appendix A describes briefly how those allocations have been made.

The tourism allocation procedure has not been changed significantly from that used and described in the 1999 report. It is explained in more detail in Section 2.4 of that report. Indeed, the tourism surveys used in the previous study have not been updated in the intervening period, so they have again been used in this study, lacking any new or better information.

Briefly, the tourism allocation procedure begins by assuming that all employment in Accommodation Services gets allocated to Tourism. This figure can be considered as a proxy for the amount of Tourism in each local area.

The BCIOM database can be used to provide estimates of the number of jobs per million dollars of expenditure in each industry. This estimate for Accommodation Services (in 1999) is 16.5 jobs per million dollars of revenue by the industry. Thus, if we know the number of jobs in Accommodation Services from the Census for a particular local area we can divide this estimate by 16.5 to estimate the annual expenditure by tourists on accommodation in the local area.

We can then use information from the British Columbia Visitor Studies on the distribution of spending by tourists in various parts of the province to estimate the expenditures by tourists on other activities. For example, the survey revealed that in the Cariboo region tourists on average spent 18% on Accommodation, 32% on Food & Beverages, 18% on Transportation, 3% on Souvenirs and Gifts, 5% on Outdoor Activities, 4% on Attractions and Cultural Events, and 20% on other undefined expenses. These "relative spending" proportions can be used to estimate total expenditures on each of these categories from our estimate of the total expenditure on Accommodation.

In principle, there is only one more step to the procedure. With estimates of total tourist spending on each of these other categories in hand, we can again use "jobs per million dollars of expenditure" estimates (from the

BCIOM) to turn the expenditure estimates into employment estimates for these other tourist activities.

When tourists purchase goods the complete expenditure does not normally contribute to jobs in the local economy because in most cases the goods themselves are imported into the area. In these cases only the trade margins associated with the sale of the product to the final purchaser remains in the community. For this reason we must first apply the appropriate margins to expenditures on goods by tourists. The updated BCIOM information on trade margins is displayed in Table A.5.1

Table A.5.1 Trade Margins (1999 BCIOM)

Type of item purchased	Retail	Wholesale
Groceries	0.203	0.075
Gasoline	0.079	0.107
Souvenirs & Gifts	0.333	0.100

In the above table, the numbers mean that, for example, of each dollar spent by tourists on gasoline, 7.9 cents goes to the retail activity, 10.7 cents goes to the wholesale activity and the remainder is assumed to leave the local area.

A.6 The Use of Household Spending Data

The Household Spending Survey (HSS) is an annual survey carried out by Statistics Canada to estimate how Canadian households spend their money. It collects quite detailed information from a representative sample of Canadian households, and publishes the results by province.

As noted earlier, in this study we are particularly concerned with an accurate allocation of some activities that are likely to be employed by both tourists and residents. We can use the HSS data to provide an independent estimate of residents' expenditures on some industries and using BCIOM multipliers can turn these estimates into employment estimates.

We thus have 4 separate pieces of information about local employment in some of the driven/nonbasic sectors of the local economy:

1. An estimate of the employment generated by tourist spending, using methodology described in A.5. Call this E1.
2. An estimate of the employment generated by the driver industries, using methodology described in A.4. Call this E2.
3. An estimate of the employment generated by the spending of local residents using the HSS data. Call this E3.

4. The estimate of the actual employment in the sector, provided by the Census. Call this E4.

In an ideal world we would find that E1 + E2 + E3 = E4. However, because reality is always more complicated than our assumptions about it, the general case is that this equation does not hold.

Simply put, what happens then is as follows:

If E4 > E1 + E2 + E3, then we assume that E1, E2, and E3 are valid estimates of what they purport to be and that the excess employment E4 - (E1 + E2 + E3) is "Other Basic";

If E4 < E1 + E2 + E3, then we revise our estimates as follows:

$$E1 = \frac{E1 \times E4}{E1 + E2 + E3} \qquad E2 = \frac{E2 \times E4}{E1 + E2 + E3} \qquad E3 = \frac{E3 \times E4}{E1 + E2 + E3}$$

These new estimates are guaranteed to add up to the observed employment level.

This procedure has been used in this study for the sectors Retail Trade, Wholesale Trade, and Personal Services, although in the latter sector E1 is zero because industries generally don't make demands on the personal services sector.[15]

A.7 Estimating After-tax Income

The income figures from the 2001 Census data are before tax incomes. A method to reliably and easily convert before tax incomes into after tax incomes was required because it seems reasonable to believe that after tax incomes are a better proxy for spending, and it is spending that drives the nonbasic part of the local economy.

Considerable thought and effort went into developing a reasonable equation for estimating after tax income from before tax income for the previous study [2]. That work was described in Section 2.5 of that report. This time around no additional effort was put into a possible revision of the form of the equation used. However, more recent income statistics [5] permitted a re-evaluation of the equation's parameters.

The resulting equation is:

After tax income = Before tax income x (1 - [0.343 - 13,231/ Before tax income + 30,685]) for any individual.

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[15] Another way to estimate residents' spending on indirect and nonbasic services is to make use of the personal expenditures estimates in the BCIOM - this approach has also been used in some sectors to provide another estimate for E3.

A related issue is the after-tax income associated with transfer payments and other non-employment income. Unfortunately, the above formula cannot be used for these cases for two reasons:

(1) while we have an estimate of the total amount of these incomes received in each community, we do not have a count on the number of people who receive them and so cannot calculate the amount received per person; and

(2) the same people who receive employment income often receive the non-employment income and Canadians are taxed on their total income, not separately on each of its components.

Fortunately, the income statistics available from Canada Customs and Revenue Agency [5] has the information we need to estimate nominal effective tax rates for these two types of non-employment income. The results of this analysis are effective tax rates of 9.3% on Transfer Payments and 18.3% on Other Non-employment Income, and these estimates have been used in this 2001 model.

A.8 Second Order Effects

One of the most surprising results of the initial testing of this model during its development was that there appeared to be a great deal of surplus employment in business services in virtually every local area. While some increase in these activities may be accounted for by software developers and other business specialists who can live almost anywhere so long as they have good communication links to their clients, the increase seemed to be more than could be reasonably accounted for by this trend.

To address this "problem", it was decide to allow the indirect industries (like wholesale trade, transportation, Finance Insurance and Real Estate, utilities etc.) to generate activities in each other. (Prior to this, only the direct basic industries could generate indirect effects, as described in A.4.) Fortunately, the BC Input Output Model has the necessary information to permit this.

Thus, the previous models looked only at specific first-order impacts (e.g. sawmills on wholesale trade) and allocated an appropriate portion of the indirect activity to the driver industry. With the change implemented here, the first-order impact of wholesale trade on business services is taken into consideration as well, and an appropriate portion of this is allocated back to sawmills; this is a second-order effect from the perspective of the sawmill, but potentially still could be provided locally.

This change did not make a big difference. It reduced the dependency on the Other Basic category by 1-3% in most areas and produced corresponding increases in the dependencies for other sectors. Employment impact ratios increased by about 0.02 as a result of including these effects.

Appendix B - Sub-Areas within some of the Local Areas

In the body of this report, income dependencies and other statistics of interest are presented for the same 63 local areas that were used in previous reports. The main reason for this is that it facilitates comparison over time. However, because the model uses data at the Census subdivision level, it is possible to develop these same statistics for smaller communities within some of the local areas defined in the main report. This appendix reports on the results of that endeavor.

Table B.1 - Percent Income Dependencies - After-tax Incomes, 2001

	For	Min	F&T	Agf	Tour	Hi-tech	Pub	Con	Oth	Tran	ONEI
54 Kitimat-Terrace	19	20	0	0	5	0	26	6	4	13	7
Kitimat	18	39	0	0	2	0	17	2	5	9	7
Terrace	22	4	0	0	8	0	32	7	5	14	8
41 Cranbrook-Kimberley	14	9	0	1	8	0	25	6	5	18	14
Cranbrook	16	5	0	1	6	0	26	6	7	18	14
Kimberley	11	18	0	1	9	0	23	6	1	17	14
47 Trail-Rossland	4	29	0	0	3	0	23	4	4	18	15
Trail	3	33	0	0	2	0	20	4	3	19	16
Rossland	2	25	0	0	5	1	34	6	2	12	13
57 Smithers-Houston	34	5	0	3	5	1	26	4	2	12	7
Smithers/Telkwa	24	3	0	3	6	2	33	5	4	12	7
Houston	57	7	0	2	2	0	13	3	0	10	6
15 Port Hardy	49	1	4	2	8	0	19	1	0	10	5
Port McNeill	59	0	3	4	8	0	14	1	0	7	4
Port Alice	72	0	1	0	3	1	12	0	0	7	5
Port Hardy	29	0	7	2	8	0	29	2	2	14	6
11 Campbell River	29	4	2	2	7	0	20	5	2	16	11
Gold River	38	1	3	2	1	0	20	8	0	13	13
Tahsis/Zeballos	44	0	2	0	2	0	28	2	0	17	5
Campbell River	28	5	2	2	8	0	20	5	2	17	11
10 Courtenay-Comox	11	1	2	3	6	0	30	5	3	20	18
Courtenay	15	1	2	3	7	0	27	5	3	21	16
Comox	7	1	2	1	5	0	35	4	3	19	21
Denman/Hornby	1	0	2	6	11	1	22	9	2	22	24

Note that the dependencies for Film Production and Sound Recording have been omitted from the Table B.1 because they are all zero for the places listed.

The diversity and forest vulnerability indices discussed in Sections 2.2 and 2.3 have also been calculated for the smaller areas defined in this appendix. They are displayed in Table B.2.

The diversity results make sense. In general, a larger area can be expected to show greater diversity. Thus, for example, both Kitimat and Terrace are less diverse than the combined Kitimat-Terrace area.

The forest vulnerability indices demonstrate how much some smaller communities in the province are vulnerable to forest industry fluctuations. These indices are calibrated to those developed for the 63 local areas defined for this report. As discussed in Section 2.3, the most vulnerable area (the Port Hardy area) and least vulnerable area (Victoria) were arbitrarily set to 100 and 0, respectively. Values greater than 100 just mean that the area is even more vulnerable than the Port Hardy area, and negative values just mean that the area is less vulnerable than the Victoria area.

Table B.2 Diversity and Forest Vulnerability Indices

	Diversity Index	Forest Vulnerability Index
54 Kitimat-Terrace	70	23
Kitimat	60	29
Terrace	66	29
41 Cranbrook-Kimberley	74	14
Cranbrook	72	17
Kimberley	73	11
47 Trail-Rossland	66	3
Trail	63	3
Rossland	64	2
57 Smithers-Houston	63	53
Smithers/Telkwa	66	35
Houston	46	132
15 Port Hardy	52	100
Port McNeill	43	145
Port Alice	30	215
Port Hardy	65	42
11 Campbell River	70	36
Gold River	61	62
Tahsis/Zeballos	52	90
Campbell River	70	34
10 Courtenay-Comox	68	13
Courtenay	70	17
Comox	63	9
Denman/Hornby	68	-1

Appendix C - Some Additional Industries

C.1 Disaggregation of the Public Sector

The income dependencies in Table 2.1 of this report focus primarily on the dependence of local economies on industrial sectors like Forestry, Fishing, Mining and Tourism. However, as can be seen in that table, a significant part of virtually every community's economic dependence is on what is broadly called the "Public Sector". In this report, that single term covers all levels of government and the services provided by those governments, including education, health, policing and municipal services.

For some purposes it may be of interest to know which services and levels of government contribute to this aggregate called "Public Sector". Table C.1 displays, for each of the 63 designated local areas the disaggregation of Public Sector into individual dependencies on Health, Education, Local Government, and Other (i.e. provincial and federal) Government. The final column of Table C.1 is the sum of the first four columns and just a repeat of the Public Sector column in Table 2.1.

The results are not too surprising. Other government is quite important in the Victoria area and its neighbor the Sooke-Port Renfrew area from which many provincial government employees commute. Federal institutions in the Comox, Chilliwack, and Kent-Harrison areas make those communities particularly dependent on Other Government.

Table C.1.1
Percent Income Dependencies (After Tax Incomes, 2001)

	Health	Education	Local Gov	Other Gov	Public Admin
VANCOUVER ISLAND/COAST					
1 Gulf Islands	6	8	1	4	18
2 Victoria	11	8	2	20	41
3 Sooke-Port Renfrew	12	5	3	21	42
4 Duncan	9	8	2	8	26
5 Lake Cowichan	7	6	3	7	22
6 Ladysmith	8	8	3	5	25
7 Nanaimo	9	8	2	9	28
8 Parksville-Qualicum	6	6	1	5	18
9 Alberni	7	6	3	6	22
10 Courtenay-Comox	9	8	1	12	30
11 Campbell River	6	6	2	6	20
12 Bute Inlet	4	8	3	6	22
13 Powell River	8	5	2	4	19
14 Alert Bay	8	8	12	5	32
15 Port Hardy	5	7	2	5	19
16 Central Coast	5	14	7	12	39
MAINLAND/SOUTHWEST (Excluding GVRD)					
17 Hope-Fraser Canyon	7	7	3	6	22
18 Chilliwack	9	7	2	10	28
19 Kent-Harrison	3	7	5	13	28
20 Matsqui-Abbottsford	9	8	2	7	26
21 Pitt Meadows-Maple Ridge	11	8	3	7	29
22 Mission	8	7	3	9	27
23 Sunshine Coast	8	6	2	5	21
24 Squamish	6	6	4	4	21
25 Lillooet	7	9	6	10	32
THOMPSON-OKANAGAN					
26 Princeton	7	5	3	4	18
27 Oliver-Osoyoos	7	5	2	3	17
28 Penticton	11	6	2	7	26
29 Ashcroft	2	8	3	4	18
30 Merritt	7	8	2	9	27
31 Kamloops	10	8	3	9	29
32 North Thompson	3	6	1	5	15
33 Peachland	9	6	2	6	22
34 Kelowna	11	7	1	5	24
35 Vernon	11	7	1	5	24
36 Spallumcheen	10	5	2	3	19
37 Salmon Arm	7	6	2	4	18
38 Golden	4	7	1	4	16
39 Revelstoke	5	5	1	6	17

Table C.1.1
Percent Income Dependencies (After Tax Incomes, 2001)

	Health	Educa-tion	Local Gov	Other Gov	Public Admin
KOOTENAY					
40 Fernie	6	5	2	2	15
41 Cranbrook-Kimberley	10	6	2	7	25
42 Invermere	4	9	2	4	18
43 Castlegar-Arrow Lakes	8	9	1	5	23
44 Nelson	10	9	2	9	30
45 Creston	11	6	2	5	23
46 Grand Forks-Greenwood	6	8	2	4	20
47 Trail-Rossland	11	6	3	3	23
CARIBOO					
48 Williams Lake	7	7	2	8	24
49 Quesnel	6	10	1	4	21
50 Prince George	9	8	2	8	28
51 McBride-Valemount	4	8	2	4	18
NORTH COAST					
52 Queen Charlotte Island	8	9	6	8	30
53 Prince Rupert	8	9	6	8	30
54 Kitimat-Terrace	8	7	4	7	26
55 Hazelton	5	12	9	6	32
56 Stewart	5	14	12	11	41
NECHAKO					
57 Smithers-Houston	7	7	2	11	26
58 Burns Lake	5	9	3	7	25
59 Vanderhoof	4	9	3	7	21
60 Stikine	0	7	14	21	42
NORTHEAST					
61 Dawson Creek	8	8	2	6	25
62 Fort St. John	5	8	1	5	19
63 Ft. Nelson	2	4	4	7	17

C.2 Employment Impact Ratios for some Additional Industries

The set of industries for which employment impact ratios are provided in Chapter 3 of this report are essentially identical to the set that was used in the previous two reports. That set was selected, somewhat arbitrarily, as being of most use to economists wanting to estimate the impact of changes likely to occur in British Columbia.

However, there are a number of other industries for which employment impact ratios may be of interest. Unfortunately, the tables in Chapter 3 are limited in size. The purpose of this section of Appendix C is to display the same set of employment impact ratios for all local areas in tables identical to those of Chapter 3, for the additional industries Sawmills, Other Wood Manufacturing, Fishing, Miscellaneous Manufacturing, Mineral Processing, and Film Production & Sound Recording. This is the first time that the latter industry has appeared in any of these reports – it is considered to be a growth industry in the province.

Miscellaneous manufacturing is an aggregation of rubber products, plastic products, leather and clothing manufacturing, printing & publishing, heavy equipment manufacturing, electrical product manufacturing, clay products, glass & nonmetallic mineral products, chemical products, and beverage producers. The heterogeneity of this mix makes these particular employment impact ratios indicative at best in any particular application.

Analysts should note that when applications are encountered where none of the employment impact ratios is this publication seem quite appropriate, because of either geographical or industrial circumstances which differ from the assumptions behind the tables in this report, the basic model can often still be used to develop useful information on a case-specific basis. Contact BC Stats for further information if this seems to be the case.

Table C.2.1
Indirect Employment Ratios – Auxiliary

	Saw Mills	Other W Mfg.	Fish-ing	Misc Mfg.	Mineral Proc.	Film Prod.
VANCOUVER ISLAND/COAST						
1 Gulf Islands	1.36	1.22	1.14	1.19	N.A.	1.23
2 Victoria	1.37	1.22	1.15	1.19	1.43	1.23
3 Sooke-Port Renfrew	1.36	1.22	1.15	1.19	N.A.	1.23
4 Duncan	1.30	1.19	1.14	1.18	N.A.	1.22
5 Lake Cowichan	1.24	1.17	1.12	1.13	N.A.	N.A.
6 Ladysmith	1.35	1.22	1.14	1.19	N.A.	1.22
7 Nanaimo	1.37	1.22	1.15	1.21	1.43	1.23
8 Parksville-Qualicum	1.36	1.22	1.15	1.20	1.43	1.23
9 Alberni	1.25	1.16	1.11	1.14	N.A.	1.20
10 Courtenay-Comox	1.36	1.22	1.14	1.21	N.A.	1.22
11 Campbell River	1.32	1.20	1.14	1.17	1.38	1.21
12 Bute Inlet	1.32	1.19	1.11	1.16	N.A.	N.A.
13 Powell River	1.31	1.19	1.13	1.18	N.A.	1.21
14 Alert Bay	1.28	1.15	1.08	1.18	N.A.	1.18
15 Port Hardy	1.30	N.A.	1.12	1.18	N.A.	1.20
16 Central Coast	1.29	N.A.	1.09	1.15	N.A.	1.19
MAINLAND/SOUTHWEST (Excluding GVRD)						
17 Hope-Fraser Canyon	1.33	1.20	N.A.	1.22	N.A.	1.20
18 Chilliwack	1.36	1.22	1.15	1.18	1.43	1.23
19 Kent-Harrison	1.33	1.20	N.A.	1.21	N.A.	1.21
20 Matsqui-Abbottsford	1.36	1.22	1.15	1.19	1.43	1.23
21 Pitt Meadows-Maple Ridge	1.36	1.22	1.15	1.19	1.43	1.23
22 Mission	1.36	1.22	1.14	1.18	1.43	1.22
23 Sunshine Coast	1.36	1.22	1.14	1.21	N.A.	1.22
24 Squamish	1.35	1.21	1.14	1.26	N.A.	1.22
25 Lillooet	1.33	1.20	1.12	N.A.	N.A.	N.A.
THOMPSON-OKANAGAN						
26 Princeton	1.32	1.18	1.11	1.14	N.A.	N.A.
27 Oliver-Osoyoos	1.32	1.20	N.A.	1.27	1.38	1.20
28 Penticton	1.36	1.22	N.A.	1.23	1.43	1.23
29 Ashcroft	1.33	1.20	1.12	1.19	N.A.	N.A.
30 Merritt	1.33	1.20	N.A.	1.13	1.40	1.20
31 Kamloops	1.36	1.22	1.15	1.21	1.43	1.23
32 North Thompson	1.29	1.17	N.A.	1.16	1.35	N.A.
33 Peachland	1.37	1.22	1.15	1.24	1.43	1.23
34 Kelowna	1.37	1.22	N.A.	1.21	1.43	1.23
35 Vernon	1.37	1.22	1.15	1.22	1.43	1.23
36 Spallumcheen	1.35	1.21	1.14	1.19	1.42	1.21
37 Salmon Arm	1.36	1.22	1.14	1.17	1.43	1.23
38 Golden	1.33	1.19	N.A.	1.18	N.A.	N.A.
39 Revelstoke	1.34	1.20	1.12	1.23	N.A.	1.21

Table C.2.1 (cont)
Indirect Employment Ratios – Auxiliary

	Saw Mills	Other W Mfg.	Fish-ing	Misc Mfg.	Mineral Proc.	Film Prod.
KOOTENAY						
40 Fernie	1.27	1.17	N.A.	1.14	N.A.	N.A.
41 Cranbrook-Kimberley	1.35	1.21	1.14	1.18	1.42	1.21
42 Invermere	1.29	1.19	N.A.	1.15	N.A.	1.21
43 Castlegar-Arrow Lakes	1.29	1.19	1.13	1.17	1.35	1.21
44 Nelson	1.35	1.21	N.A.	1.26	1.42	1.22
45 Creston	1.34	1.21	N.A.	1.26	1.40	1.20
46 Grand Forks-Greenwood	1.32	1.20	1.14	1.14	N.A.	N.A.
47 Trail-Rossland	1.23	1.16	N.A.	1.19	1.27	1.20
CARIBOO						
48 Williams Lake	1.34	1.21	1.13	1.18	N.A.	1.21
49 Quesnel	1.30	1.19	N.A.	1.14	N.A.	1.20
50 Prince George	1.36	1.22	1.14	1.23	1.43	1.22
51 McBride-Valemount	1.33	1.20	N.A.	1.20	N.A.	N.A.
NORTH COAST						
52 Queen Charlotte Island	1.35	1.21	1.14	1.17	1.42	N.A.
53 Prince Rupert	1.34	1.20	1.13	1.16	1.40	N.A.
54 Kitimat-Terrace	1.30	1.19	1.13	1.25	1.35	1.21
55 Hazelton	1.24	1.14	1.09	1.10	1.30	1.18
56 Stewart	1.29	N.A.	1.09	1.14	N.A.	N.A.
NECHAKO						
57 Smithers-Houston	1.34	1.21	1.13	1.22	N.A.	1.21
58 Burns Lake	1.26	1.16	1.11	1.13	N.A.	N.A.
59 Vanderhoof	1.26	1.17	1.11	1.15	1.31	N.A.
60 Stikine	1.31	1.18	1.11	1.13	1.37	1.15
NORTHEAST						
61 Dawson Creek	1.33	1.20	1.12	1.19	1.40	1.18
62 Fort St. John	1.32	1.19	1.12	1.16	1.38	1.15
63 Ft. Nelson	1.31	1.19	N.A.	1.22	N.A.	N.A.

Table C.2.2
Indirect and Induced Employment Ratios - Auxiliary
No Migration (with Safety Net)

	Saw Mills	Other W Mfg.	Fish-ing	Misc Mfg.	Mineral Proc.	Film Prod.
VANCOUVER ISLAND/COAST						
1 Gulf Islands	1.39	1.30	1.24	1.25	N.A.	1.32
2 Victoria	1.50	1.34	1.24	1.30	1.57	1.30
3 Sooke-Port Renfrew	1.62	1.24	1.26	1.31	N.A.	1.25
4 Duncan	1.45	1.29	1.21	1.27	N.A.	1.26
5 Lake Cowichan	1.39	1.18	1.13	1.14	N.A.	N.A.
6 Ladysmith	1.59	1.37	1.25	1.27	N.A.	1.24
7 Nanaimo	1.61	1.37	1.28	1.34	1.48	1.28
8 Parksville-Qualicum	1.48	1.29	1.24	1.26	1.50	1.24
9 Alberni	1.35	1.18	1.17	1.18	N.A.	1.21
10 Courtenay-Comox	1.49	1.30	1.21	1.29	N.A.	1.30
11 Campbell River	1.43	1.26	1.20	1.25	1.40	1.31
12 Bute Inlet	1.39	1.25	1.16	1.17	N.A.	N.A.
13 Powell River	1.40	1.23	1.19	1.23	N.A.	1.22
14 Alert Bay	1.41	1.15	1.11	1.19	N.A.	1.18
15 Port Hardy	1.36	N.A.	1.16	1.19	N.A.	1.25
16 Central Coast	1.33	N.A.	1.12	1.19	N.A.	1.23
MAINLAND/SOUTHWEST (Excluding GVRD)						
17 Hope-Fraser Canyon	1.54	1.21	N.A.	1.23	N.A.	1.49
18 Chilliwack	1.53	1.34	1.24	1.31	1.56	1.29
19 Kent-Harrison	1.51	1.25	N.A.	1.24	N.A.	1.26
20 Matsqui-Abbottsford	1.55	1.37	1.21	1.33	1.62	1.31
21 Pitt Meadows-Maple Ridge	1.61	1.34	1.27	1.36	1.71	1.41
22 Mission	1.61	1.35	1.24	1.31	1.62	1.33
23 Sunshine Coast	1.58	1.29	1.25	1.28	N.A.	1.31
24 Squamish	1.51	1.32	1.21	1.47	N.A.	1.31
25 Lillooet	1.41	1.27	1.17	N.A.	N.A.	N.A.
THOMPSON-OKANAGAN						
26 Princeton	1.54	1.24	1.11	1.14	N.A.	N.A.
27 Oliver-Osoyoos	1.42	1.26	N.A.	1.33	1.40	1.21
28 Penticton	1.50	1.32	N.A.	1.34	1.56	1.28
29 Ashcroft	1.49	1.31	1.15	1.23	N.A.	N.A.
30 Merritt	1.45	1.24	N.A.	1.14	1.42	1.21
31 Kamloops	1.59	1.37	1.16	1.32	1.77	1.29
32 North Thompson	1.37	1.19	N.A.	1.18	1.36	N.A.
33 Peachland	1.58	1.36	1.22	1.37	1.48	1.30
34 Kelowna	1.58	1.36	N.A.	1.35	1.59	1.30
35 Vernon	1.53	1.36	1.16	1.35	1.48	1.34
36 Spallumcheen	1.48	1.37	1.15	1.29	1.45	1.43
37 Salmon Arm	1.53	1.34	1.15	1.28	1.46	1.27
38 Golden	1.43	1.28	N.A.	1.22	N.A.	N.A.
39 Revelstoke	1.48	1.27	1.13	1.24	N.A.	1.37

Table C.2.2 (cont)
Indirect and Induced Employment Ratios – Auxiliary
No Migration (with Safety Net)

	Saw Mills	Other W Mfg.	Fish-ing	Misc Mfg.	Mineral Proc.	Film Prod.
KOOTENAY						
40 Fernie	1.41	1.20	N.A.	1.16	N.A.	N.A.
41 Cranbrook-Kimberley	1.55	1.32	1.15	1.26	1.46	1.23
42 Invermere	1.42	1.20	N.A.	1.15	N.A.	1.29
43 Castlegar-Arrow Lakes	1.45	1.25	1.13	1.21	1.55	1.22
44 Nelson	1.47	1.27	N.A.	1.34	1.69	1.33
45 Creston	1.46	1.25	N.A.	1.33	1.43	1.22
46 Grand Forks-Greenwood	1.49	1.30	1.14	1.17	N.A.	N.A.
47 Trail-Rossland	1.36	1.20	N.A.	1.28	1.50	1.21
CARIBOO						
48 Williams Lake	1.47	1.35	1.22	1.25	N.A.	1.25
49 Quesnel	1.46	1.30	N.A.	1.20	N.A.	1.22
50 Prince George	1.59	1.36	1.19	1.37	1.48	1.28
51 McBride-Valemount	1.41	1.28	N.A.	1.20	N.A.	N.A.
NORTH COAST						
52 Queen Charlotte Island	1.48	1.27	1.19	1.26	1.44	N.A.
53 Prince Rupert	1.52	1.22	1.21	1.25	1.43	N.A.
54 Kitimat-Terrace	1.47	1.20	1.19	1.37	1.58	1.26
55 Hazelton	1.29	1.22	1.11	1.10	1.41	1.19
56 Stewart	1.29	N.A.	1.11	1.14	N.A.	N.A.
NECHAKO						
57 Smithers-Houston	1.49	1.31	1.15	1.23	N.A.	1.23
58 Burns Lake	1.35	1.19	1.11	1.15	N.A.	N.A.
59 Vanderhoof	1.35	1.22	1.12	1.19	1.45	N.A.
60 Stikine	1.32	1.19	1.15	1.14	1.38	1.16
NORTHEAST						
61 Dawson Creek	1.49	1.36	1.18	1.29	1.43	1.21
62 Fort St. John	1.51	1.26	1.17	1.22	1.41	1.22
63 Ft. Nelson	1.44	1.33	N.A.	1.24	N.A.	N.A.

Table C.2.3
Indirect and Induced Employment Ratios – Auxiliary Migration (No Safety Net/No Public Sector Impacts)

	Saw Mills	Other W Mfg.	Fish-ing	Misc Mfg.	Mineral Proc.	Film Prod.
VANCOUVER ISLAND/COAST						
1 Gulf Islands	1.43	1.43	1.39	1.34	N.A.	1.47
2 Victoria	1.73	1.55	1.41	1.48	1.82	1.42
3 Sooke-Port Renfrew	1.89	1.27	1.47	1.52	N.A.	1.28
4 Duncan	1.68	1.45	1.32	1.44	N.A.	1.33
5 Lake Cowichan	1.57	1.19	1.14	1.15	N.A.	N.A.
6 Ladysmith	1.84	1.59	1.44	1.42	N.A.	1.27
7 Nanaimo	1.95	1.64	1.51	1.58	1.57	1.36
8 Parksville-Qualicum	1.68	1.41	1.40	1.38	1.61	1.27
9 Alberni	1.47	1.21	1.25	1.26	N.A.	1.22
10 Courtenay-Comox	1.71	1.44	1.33	1.42	N.A.	1.43
11 Campbell River	1.62	1.36	1.30	1.38	1.45	1.46
12 Bute Inlet	1.50	1.34	1.23	1.18	N.A.	N.A.
13 Powell River	1.55	1.29	1.29	1.33	N.A.	1.24
14 Alert Bay	1.49	1.16	1.16	1.19	N.A.	1.19
15 Port Hardy	1.45	N.A.	1.23	1.21	N.A.	1.33
16 Central Coast	1.39	N.A.	1.16	1.25	N.A.	1.29
MAINLAND/SOUTHWEST (Excluding GVRD)						
17 Hope-Fraser Canyon	1.70	1.23	N.A.	1.24	N.A.	1.65
18 Chilliwack	1.82	1.55	1.41	1.54	1.79	1.41
19 Kent-Harrison	1.63	1.33	N.A.	1.31	N.A.	1.35
20 Matsqui-Abbottsford	1.89	1.64	1.32	1.59	1.97	1.45
21 Pitt Meadows-Maple Ridge	1.99	1.57	1.49	1.68	2.11	1.74
22 Mission	1.93	1.57	1.41	1.55	1.95	1.53
23 Sunshine Coast	1.83	1.40	1.43	1.40	N.A.	1.44
24 Squamish	1.70	1.49	1.34	1.65	N.A.	1.45
25 Lillooet	1.52	1.37	1.24	N.A.	N.A.	N.A.
THOMPSON-OKANAGAN						
26 Princeton	1.72	1.33	1.12	1.16	N.A.	N.A.
27 Oliver-Osoyoos	1.57	1.35	N.A.	1.42	1.43	1.22
28 Penticton	1.74	1.49	N.A.	1.53	1.78	1.38
29 Ashcroft	1.61	1.42	1.16	1.27	N.A.	N.A.
30 Merritt	1.58	1.30	N.A.	1.16	1.45	1.22
31 Kamloops	1.90	1.63	1.19	1.52	2.12	1.40
32 North Thompson	1.45	1.22	N.A.	1.21	1.38	N.A.
33 Peachland	1.88	1.61	1.35	1.60	1.57	1.43
34 Kelowna	1.91	1.60	N.A.	1.61	1.88	1.42
35 Vernon	1.82	1.61	1.19	1.58	1.55	1.53
36 Spallumcheen	1.70	1.59	1.17	1.46	1.51	1.65
37 Salmon Arm	1.77	1.54	1.17	1.47	1.52	1.34
38 Golden	1.58	1.42	N.A.	1.28	N.A.	N.A.
39 Revelstoke	1.65	1.38	1.14	1.27	N.A.	1.52

Table C.2.3 (cont)
Indirect and Induced Employment Ratios – Auxiliary
Migration (No Safety Net/No Public Sector Impacts)

	Saw Mills	Other W Mfg.	Fish-ing	Misc Mfg.	Mineral Proc.	Film Prod.
KOOTENAY						
40 Fernie	1.53	1.24	N.A.	1.20	N.A.	N.A.
41 Cranbrook-Kimberley	1.81	1.50	1.17	1.40	1.53	1.26
42 Invermere	1.59	1.22	N.A.	1.17	N.A.	1.43
43 Castlegar-Arrow Lakes	1.64	1.37	1.15	1.29	1.76	1.24
44 Nelson	1.68	1.37	N.A.	1.49	1.94	1.50
45 Creston	1.66	1.31	N.A.	1.47	1.48	1.24
46 Grand Forks-Greenwood	1.66	1.46	1.15	1.22	N.A.	N.A.
47 Trail-Rossland	1.56	1.28	N.A.	1.43	1.72	1.24
CARIBOO						
48 Williams Lake	1.66	1.52	1.36	1.37	N.A.	1.31
49 Quesnel	1.66	1.48	N.A.	1.30	N.A.	1.24
50 Prince George	1.90	1.62	1.26	1.62	1.57	1.37
51 McBride-Valemount	1.53	1.38	N.A.	1.21	N.A.	N.A.
NORTH COAST						
52 Queen Charlotte Island	1.67	1.36	1.28	1.42	1.49	N.A.
53 Prince Rupert	1.73	1.25	1.34	1.39	1.49	N.A.
54 Kitimat-Terrace	1.66	1.23	1.28	1.55	1.78	1.34
55 Hazelton	1.38	1.32	1.14	1.11	1.53	1.21
56 Stewart	1.30	N.A.	1.13	1.14	N.A.	N.A.
NECHAKO						
57 Smithers-Houston	1.69	1.48	1.18	1.26	N.A.	1.25
58 Burns Lake	1.47	1.23	1.12	1.19	N.A.	N.A.
59 Vanderhoof	1.48	1.29	1.13	1.26	1.58	N.A.
60 Stikine	1.34	1.20	1.20	1.14	1.41	1.17
NORTHEAST						
61 Dawson Creek	1.69	1.54	1.27	1.46	1.48	1.25
62 Fort St. John	1.72	1.37	1.25	1.34	1.47	1.33
63 Ft. Nelson	1.60	1.48	N.A.	1.27	N.A.	N.A.

C.3 Major Components of the "Other" Category

The income dependencies displayed in Table 2.1 add up to 100% because they cover the complete range of basic sources of income in each local area. While most of these income sources are well-defined, there is a catch-all category called Other Basic which has been used to capture all basic sources of income that do not seem to fit into any of the other categories. In most local areas this is quite small, between 5% and 10%. However, in a few places Other Basic is quite a bit larger, and it may be natural to wonder exactly what that Other is. The purpose of this section is to try to answer that question by digging into the database a little more deeply.

Other Basic is largest at 19% in the Pitt Meadows-Maple Ridge Area. Analysis reveals that almost 40% of this is the result of miscellaneous non-resource-based manufacturing - primarily Heavy Equipment Manufacturing, Printing & Publishing, and Plastic Products. Excess capacity in Wholesale Trade (which includes Warehousing and Storage in this study) accounts for 18% of Other and Communications makes up another 7% of Other in this area.

Other Basic is second largest in the province at 14% in the Revelstoke Area. Virtually all of this is made up of Transportation with Rail Transport alone accounting for 63%.

The Matsqui-Abbotsford Area shows a dependence of 13% on Other Basic. The major components of this are Wholesale Trade (17%), Heavy Equipment Manufacturing (14%), and Truck Transport (11%).

The Kelowna Area has a dependence of 12% on Other Basic. Heavy Equipment Manufacturing is the largest component of this at 29%, followed by Wholesale Trade (13%), Miscellaneous Manufacturing (12%), and Communications (9%).

The Mission Area also has a dependence of 12% on Other Basic. The major components allocated to Other here were Heavy Equipment Manufacturing (14%), Truck Transport (12%), and Miscellaneous Manufacturing (11%).

The Vernon Area shows a somewhat different industrial structure. Other Basic constitutes 11% of total income dependence in Vernon, and in Vernon the largest single component of this is Glass & Non-metallic mineral products manufacturing (22%), followed by Wholesale Trade (10%), Utilities (8%) and manufacture of plastic products (7%).

Note that in the above analysis we have identified situations where the local capacity in industries like Wholesale Trade, utilities, communications, or various types of transportation seems to exceed that which would be required by local businesses and the local population. In these cases, the "products" of the industries in question are assumed to be "exported" from the region and that portion of the industry is allocated to the Other Basic category.

Appendix D – Dependency Changes During the 1990's

In these tables the following abbreviations are used: FOR = Forestry & related manufacturing, MIN = Mining, oil & gas & related processing, F&T = Fishing & trapping & related processing, AGF = Agriculture & food processing, TOU = Tourism, PUB = Public sector including health services and education, OTH = All other basic industries, TRAN = Transfer payments from government, ONEI = Other Non-Employment Income. The precise components of each can be found in Appendix A.3.

1 Gulf Islands

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	1	0	1	2	7	18	18	20	32
1996	1	0	2	2	7	19	17	21	31
1991	3	1	2	2	6	18	17	8	43

2 Victoria

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	1	0	0	1	6	41	14	16	20
1996	1	0	0	1	7	41	15	16	19
1991	2	1	0	1	3	33	17	8	35

3 Sooke-Port Renfrew

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	3	0	2	1	6	42	18	18	11
1996	6	0	1	1	7	41	15	17	11
1991	8	2	3	1	4	32	22	5	23

4 Duncan

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	18	1	0	2	4	26	11	19	18
1996	20	1	1	3	3	24	12	19	16
1991	19	2	1	3	3	20	15	12	25

5 Lake Cowichan

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	31	0	0	1	5	22	5	23	14
1996	33	0	1	1	4	18	9	23	11
1991	35	1	1	1	3	16	10	15	20

6 Ladysmith

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	19	0	1	2	3	25	11	22	17
1996	24	0	1	1	7	21	14	19	14
1991	16	1	0	0	3	12	13	11	44

7 Nanaimo

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	11	0	1	1	5	28	16	21	18
1996	13	1	1	1	4	26	21	20	14
1991	11	2	1	1	3	20	22	16	25

8 Parksville-Qualicum

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	8	1	1	1	7	18	11	25	27
1996	8	0	2	1	8	19	15	24	22
1991	9	1	2	1	5	15	15	12	40

9 Alberni

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	31	0	2	2	8	22	5	18	12
1996	36	0	3	1	7	21	6	16	9
1991	31	1	4	1	4	15	7	14	21

10 Courtenay-Comox

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	11	1	2	3	6	30	9	20	18
1996	13	1	3	2	5	28	13	20	16
1991	11	2	2	2	3	26	15	14	26

11 Campbell River

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	29	4	2	2	7	20	8	16	11
1996	36	6	3	1	7	17	10	13	7
1991	33	6	4	0	5	15	9	13	15

12 Bute Inlet

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	5	3	12	3	11	22	9	18	17
1996	11	0	21	3	14	14	9	15	12
1991	9	2	13	1	10	14	20	13	18

13 Powell River

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	27	2	1	1	4	19	6	21	17
1996	34	3	1	1	6	20	7	17	11
1991	35	3	2	1	3	16	8	11	21

14 Alert Bay

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	8	0	15	1	8	32	5	24	6
1996	18	0	19	0	3	31	9	12	8
1991	11	0	17	0	5	27	14	13	13

15 Port Hardy

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	49	1	4	2	8	19	2	10	5
1996	51	5	5	1	7	16	5	7	3
1991	37	13	5	1	6	15	3	11	9

16 Central Coast/Ocean Falls

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	13	0	7	1	6	39	6	22	5
1996	26	0	8	1	9	38	6	9	4
1991	21	0	5	1	6	22	9	25	11

17 Hope-Fraser Canyon

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	14	2	0	1	11	22	13	25	11
1996	17	1	0	0	16	21	12	22	10
1991	15	2	0	1	7	21	17	15	23

18 Chilliwack

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	6	1	0	7	4	28	18	21	15
1996	5	0	0	7	3	32	19	20	12
1991	6	2	0	6	2	26	17	13	27

19 Kent-Harris

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	6	1	0	6	12	28	12	21	13
1996	10	0	0	9	14	30	9	18	10
1991	9	0	0	7	10	19	16	15	23

20 Matsqui-Abbotsford

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	8	1	0	11	2	26	23	18	12
1996	6	1	0	10	2	25	28	18	11
1991	5	3	0	7	1	19	25	19	22

21 Pitt Meadow

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	7	2	0	3	2	29	32	14	10
1996	7	1	1	3	2	27	37	15	8
1991	6	5	1	3	1	22	33	12	18

22 Mission

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	12	1	0	6	3	27	23	18	10
1996	12	1	0	5	2	26	26	19	8
1991	15	2	0	6	1	22	23	13	18

23 Sunshine Coast

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	19	1	2	1	5	21	11	20	19
1996	20	2	2	1	5	19	14	19	19
1991	20	2	4	1	4	14	15	11	30

24 Squamish

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	12	1	0	0	29	21	20	9	7
1996	14	0	0	1	25	20	23	9	7
1991	15	2	0	1	14	17	26	12	13

25 Lillooet

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	20	0	1	3	6	32	13	16	9
1996	29	0	0	2	7	30	11	14	7
1991	25	3	0	3	5	19	16	13	16

26 Princeton

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	28	1	0	1	5	18	8	25	14
1996	24	14	0	1	8	18	7	18	11
1991	19	16	0	4	5	17	7	13	18

27 Oliver-Osoyoos

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	6	1	0	12	6	17	7	33	18
1996	6	1	0	12	7	19	7	30	18
1991	4	3	0	13	4	14	13	14	37

28 Penticton

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	5	2	0	3	6	26	12	25	20
1996	5	2	0	4	6	25	14	25	18
1991	4	3	0	4	4	18	18	12	36

29 Ashcroft

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	18	8	0	6	8	18	9	22	12
1996	15	10	0	7	8	23	11	18	8
1991	13	11	0	4	6	19	13	13	21

30 Merritt

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	24	5	0	4	6	27	7	20	8
1996	27	6	0	6	7	22	9	18	6
1991	19	7	0	5	3	17	15	16	17

31 Kamloops

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	10	6	0	2	6	29	16	18	13
1996	11	7	0	2	6	27	21	16	10
1991	10	7	0	2	2	21	23	15	20

32 North Thompson

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	39	1	0	2	8	15	6	17	11
1996	36	2	0	3	8	16	7	17	10
1991	37	2	0	4	5	16	8	15	14

33 Peachland

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	5	3	0	3	6	22	20	21	19
1996	7	2	0	3	6	20	31	16	14
1991	5	6	0	3	3	19	27	14	23

34 Kelowna

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	5	1	0	5	6	24	21	20	18
1996	4	1	0	4	6	21	27	20	16
1991	4	3	0	4	3	15	24	12	35

35 Vernon

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	10	1	0	3	6	24	18	23	16
1996	14	1	0	3	5	23	20	21	13
1991	10	4	0	3	3	17	20	14	29

36 Spallumcheen

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	13	2	0	9	3	19	18	23	14
1996	14	1	0	13	4	18	16	23	12
1991	15	2	0	9	2	15	18	15	24

37 Salmon Arm

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	11	2	0	3	6	18	17	24	19
1996	12	1	0	4	4	19	16	24	19
1991	15	2	0	4	2	16	18	13	29

38 Golden

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	25	1	0	1	17	16	18	14	8
1996	27	3	0	1	13	20	16	13	7
1991	33	2	0	1	7	17	16	13	12

39 Revelstoke

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	21	0	0	0	16	17	20	15	11
1996	22	4	0	0	10	20	20	14	9
1991	16	3	0	0	6	16	29	11	17

40 Fernie

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	8	41	0	1	9	15	6	12	8
1996	8	46	0	1	6	15	5	12	7
1991	7	50	0	1	3	14	4	10	11

41 Cranbrook-Kimberley

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	14	9	0	1	8	25	11	18	14
1996	17	10	0	1	5	25	13	18	10
1991	13	10	0	1	3	21	17	12	22

42 Invermere

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	18	2	0	1	17	18	15	14	15
1996	21	2	0	2	19	17	10	14	13
1991	21	5	0	2	17	17	10	10	20

43 Castlegar-Arrow Lakes

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	25	6	0	0	3	23	12	18	13
1996	30	3	0	1	4	21	11	18	10
1991	25	7	0	1	3	18	10	13	22

44 Nelson

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	13	2	0	1	7	30	13	19	15
1996	13	2	0	1	6	31	14	20	13
1991	11	5	0	1	4	24	18	15	22

45 Creston

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	10	2	0	7	5	23	7	29	16
1996	11	1	0	6	5	22	11	26	18
1991	11	3	0	6	3	20	13	14	30

46 Grand Forks

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	25	1	0	4	6	20	7	23	13
1996	25	3	0	4	7	17	10	25	10
1991	23	6	0	3	3	18	12	11	23

47 Trail-Rossland

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	4	29	0	0	3	23	8	18	15
1996	6	28	0	0	4	23	9	18	12
1991	3	29	0	1	3	20	10	10	25

48 Williams Lake

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	30	2	0	3	6	24	9	16	9
1996	31	3	0	4	7	22	11	14	8
1991	27	4	0	4	6	20	11	15	13

49 Quesnel

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	43	1	0	2	5	21	5	16	8
1996	45	1	0	2	5	17	8	15	6
1991	39	2	0	3	3	16	7	16	13

50 Prince George

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	31	1	0	1	4	28	14	13	8
1996	33	1	0	1	4	24	19	12	6
1991	30	3	0	1	3	18	19	14	11

51 McBride-Valemount

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	30	0	0	2	15	18	9	16	10
1996	39	0	0	4	8	18	9	16	7
1991	33	1	0	6	6	14	16	13	11

52 Queen Charlotte Islands

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	33	0	4	1	7	30	8	11	6
1996	34	0	6	0	8	32	4	9	6
1991	26	1	3	0	6	36	8	12	8

53 Prince Rupert

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	23	0	11	0	6	30	6	18	5
1996	22	0	15	0	8	28	8	13	5
1991	17	0	18	0	5	19	14	16	10

54 Kitimat-Terrace

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	19	20	0	0	5	26	10	13	7
1996	24	17	0	1	5	22	13	11	5
1991	21	14	1	1	4	21	13	15	11

55 Hazelton

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	29	3	1	1	3	32	3	24	5
1996	36	2	2	1	7	35	5	10	3
1991	39	0	1	2	3	20	12	13	9

56 Stewart

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	9	7	3	0	5	41	8	22	5
1996	25	9	3	0	7	37	12	5	2
1991	18	20	1	0	8	22	18	9	6

57 Smithers-Houston

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	34	5	0	3	5	26	7	12	7
1996	36	3	0	3	7	22	11	12	6
1991	26	9	0	3	5	19	14	13	11

58 Burns Lake

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	37	1	0	2	5	25	6	15	10
1996	41	1	0	4	4	23	6	12	7
1991	33	1	0	3	4	23	10	13	14

59 Vanderhoof

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	44	5	0	2	2	21	6	14	5
1996	46	6	0	5	4	19	4	12	4
1991	35	6	0	5	4	18	9	13	10

60 Stikine

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	2	4	1	0	8	42	23	14	6
1996	6	11	0	1	10	55	6	9	3
1991	5	43	1	1	8	23	12	6	2

61 Dawson Creek

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	16	17	0	5	4	25	12	15	6
1996	14	25	0	5	6	21	10	13	5
1991	13	21	0	6	3	21	14	12	10

62 Fort St. John

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	7	32	0	4	6	19	17	10	5
1996	11	26	0	5	7	19	18	11	4
1991	8	23	0	7	4	18	19	13	9

63 Fort Nelson

Year	FOR	MIN	F&T	AGF	TOU	PUB	OTH	TRAN	ONEI
2001	31	19	0	1	8	17	14	6	4
1996	46	4	0	0	9	15	17	7	2
1991	29	14	0	1	6	19	15	13	6

Appendix E - Census Components of the 63 Local Areas

LA: Local Area
CSD: Census Sub-division
SGC: Standard Geographic Code

CSD Type:

C	City	RDA	Rural Development Area
T	Town	R	Indian Reserve
VL	Village	IGR	Indian Government District
DM	District Municipality	S-E	Indian Settlement

LA	Local Area Name	CSD NAME	SGC	CSD Type
1	Gulf Islands	Capital F	5917027	RDA
1	Gulf Islands	Capital G	5917029	RDA
1	Gulf Islands	Galiano Island 9	5917805	R
1	Gulf Islands	Mayne Island 6	5917806	R
2	Victoria	North Saanich	5917005	DM
2	Victoria	Sidney	5917010	T
2	Victoria	Central Saanich	5917015	DM
2	Victoria	Saanich	5917021	DM
2	Victoria	Oak Bay	5917030	DM
2	Victoria	Victoria	5917034	C
2	Victoria	Esquimalt	5917040	DM
2	Victoria	Colwood	5917041	C
2	Victoria	Metchosin	5917042	DM
2	Victoria	Langford	5917044	DM
2	Victoria	View Royal	5917047	T
2	Victoria	Highlands	5917049	DM
2	Victoria	Cole Bay 3	5917801	R
2	Victoria	Union Bay 4	5917802	R
2	Victoria	East Saanich 2	5917803	R
2	Victoria	South Saanich 1	5917804	R
2	Victoria	Becher Bay 1	5917809	R
2	Victoria	New Songhees 1A	5917812	R
2	Victoria	Esquimalt	5917811	R
3	Sooke-Port Renfrew	Sooke	5917052	DM
3	Sooke-Port Renfrew	Capital H (Part 1)	5917054	RDA
3	Sooke-Port Renfrew	Capital H (Part 2)	5917056	RDA
3	Sooke-Port Renfrew	Gordon River 2	5917815	R
3	Sooke-Port Renfrew	T'Sou-ke 1 (Sooke 1)	5917817	R
3	Sooke-Port Renfrew	T'Sou-ke 2 (Sooke 2)	5917818	R
3	Sooke-Port Renfrew	Pacheena 1	5917816	R
4	Duncan	North Cowichan	5919008	DM
4	Duncan	Duncan	5919012	C
4	Duncan	Cowichan Valley A	5919043	RDA
4	Duncan	Cowichan Valley B	5919046	RDA

LA	Local Area Name	CSD NAME	SGC	CSD Type
4	Duncan	Cowichan Valley C	5919049	RDA
4	Duncan	Cowichan Valley E	5919051	RDA
4	Duncan	Halalt 2	5919801	R
4	Duncan	Squaw-hay-one 11	5919802	R
4	Duncan	Tsussie 6	5919803	R
4	Duncan	Cowichan 9	5919806	R
4	Duncan	Cowichan 1	5919807	R
4	Duncan	Malahat 11	5919815	R
5	Lake Cowichan	Lake Cowichan	5919016	T
5	Lake Cowichan	Cowichan Valley F	5919033	RDA
5	Lake Cowichan	Cowichan Valley I	5919035	RDA
5	Lake Cowichan	Cowichan Lake	5919812	R
5	Lake Cowichan	Claoose 4	5919805	R
5	Lake Cowichan	Malachan 11	5919814	R
5	Lake Cowichan	Wyah 3	5919819	R
6	Ladysmith	Cowichan Valley D	5919013	RDA
6	Ladysmith	Cowichan Valley G	5919015	RDA
6	Ladysmith	Cowichan Valley H	5919017	RDA
6	Ladysmith	Ladysmith	5919021	T
6	Ladysmith	Chemainus 13	5919804	R
6	Ladysmith	Kil-pah-las 3	5919808	R
6	Ladysmith	Kuper Island 7	5919809	R
6	Ladysmith	Lyacksun 3	5919810	R
6	Ladysmith	Shingle Point 4	5919811	R
6	Ladysmith	Oyster Bay 12	5919816	R
6	Ladysmith	Portier Pass 5	5919817	R
6	Ladysmith	Theik 2	5919818	R
7	Nanaimo	Nanaimo	5921007	C
7	Nanaimo	Nanaimo A	5921010	RDA
7	Nanaimo	Nanaimo B	5921014	RDA
7	Nanaimo	Nanaimo C	5921016	RDA
7	Nanaimo	Nanaimo D	5921020	RDA
7	Nanaimo	Nanaimo River 2	5921802	R
7	Nanaimo	Nanaimo River 4	5921803	R
7	Nanaimo	Nanaimo Town 1	5921804	R
7	Nanaimo	Nanoose	5921805	R
7	Nanaimo	Nanaimo River 3	5921801	R
8	Parksville-Qualicum	Parksville	5921018	C
8	Parksville-Qualicum	Qualicum Beach	5921023	T
8	Parksville-Qualicum	Nanaimo E	5921030	RDA
8	Parksville-Qualicum	Nanaimo F	5921032	RDA
8	Parksville-Qualicum	Nanaimo G	5921034	RDA
8	Parksville-Qualicum	Nanaimo H	5921036	RDA

LA	Local Area Name	CSD NAME	SGC	CSD Type
8	Parksville-Qualicum	Qualicum	5921806	R
9	Alberni	Port Alberni	5923008	C
9	Alberni	Ucluelet	5923019	DM
9	Alberni	Tofino	5923025	DM
9	Alberni	Alberni-Clayoquot B	5923033	RDA
9	Alberni	Alberni-Clayoquot D	5923035	RDA
9	Alberni	Alberni-Clayoquot E	5923037	RDA
9	Alberni	Alberni-Clayoquot F	5923039	RDA
9	Alberni	Alberni-Clayoquot A	5923047	RDA
9	Alberni	Alberni-Clayoquot C	5923049	RDA
9	Alberni	Ahahswinis 1	5923801	R
9	Alberni	Alberni 2	5923802	R
9	Alberni	Anacla 12	5923803	R
9	Alberni	Clakamucus 2	5923804	R
9	Alberni	Elhlateese 2	5923805	R
9	Alberni	Hesquiat 1	5923806	R
9	Alberni	Ittatsoo 1	5923807	R
9	Alberni	Marktosis 15	5923808	R
9	Alberni	Numukamis 1	5923809	R
9	Alberni	Macoah 1	5923810	R
9	Alberni	Opitsat 1	5923813	R
9	Alberni	Sachsa 4	5923814	R
9	Alberni	Stuart Bay 6	5923815	R
9	Alberni	Tsahaheh 1	5923816	R
9	Alberni	Keeshan 9	5923821	R
9	Alberni	Klehkoot 2	5923822	R
9	Alberni	Esowista 3	5923823	R
9	Alberni	Refuge Cove 6	5923824	R
9	Alberni	Openit 27	5923812	R
10	Courtenay-Comox	Comox	5925005	T
10	Courtenay-Comox	Courtenay	5925010	C
10	Courtenay-Comox	Cumberland	5925014	VL
10	Courtenay-Comox	Comox-Strathcona A	5925018	RDA
10	Courtenay-Comox	Comox-Strathcona K	5925019	RDA
10	Courtenay-Comox	Comox-Strathcona B	5925022	RDA
10	Courtenay-Comox	Comox-Strathcona C	5925024	RDA
10	Courtenay-Comox	Comox 1	5925801	R
10	Courtenay-Comox	Pentledge 2	5925802	R
11	Campbell River	Gold River	5925025	VL
11	Campbell River	Zeballos	5925029	VL
11	Campbell River	Tahsis	5925030	VL
11	Campbell River	Campbell River	5925034	DM
11	Campbell River	Sayward	5925039	VL

LA	Local Area Name	CSD NAME	SGC	CSD Type
11	Campbell River	Comox-Strathcona D	5925042	RDA
11	Campbell River	Comox-Strathcona H	5925046	RDA
11	Campbell River	Comox-Strathcona G	5925049	RDA
11	Campbell River	Ahaminaquus 12	5925803	R
11	Campbell River	Campbell River 11	5925804	R
11	Campbell River	Chenahkint 12	5925805	R
11	Campbell River	Houpsitas 6	5925806	R
11	Campbell River	Nuchatl 1	5925809	R
11	Campbell River	Quinsam 12	5925812	R
11	Campbell River	Village Island 1	5925813	R
11	Campbell River	Yuquot 1	5925814	R
11	Campbell River	Oclucje 7	5925833	R
11	Campbell River	Tsa Xana 18	5925835	R
11	Campbell River	Nuchatl 2	5925808	R
12	Bute Inlet	Comox-Strathcona I	5925052	RDA
12	Bute Inlet	Comox-Strathcona J	5925054	RDA
12	Bute Inlet	Aupe 6A	5925816	R
12	Bute Inlet	Cape Mudge 10	5925817	R
12	Bute Inlet	Squirrel Cove 8	5925818	R
12	Bute Inlet	Tatpo-oose 10	5925819	R
12	Bute Inlet	Tork 7	5925820	R
12	Bute Inlet	Saaiyouck 6	5925830	R
12	Bute Inlet	Aupe 6	5925815	R
12	Bute Inlet	Matsayno 5	5925825	R
13	Powell River	Powell River	5927008	DM
13	Powell River	Powell River A	5927010	RDA
13	Powell River	Powell River B	5927012	RDA
13	Powell River	Powell River C	5927016	RDA
13	Powell River	Powell River D	5927018	RDA
13	Powell River	Powell River E	5927020	RDA
13	Powell River	Sliammon 1	5927802	R
13	Powell River	Harwood Island 2	5927805	R
13	Powell River	Sechelt (Part)	5927806	IGD
14	Alert Bay	Alert Bay	5943008	VL
14	Alert Bay	Mount Waddington A	5943037	RDA
14	Alert Bay	Alert Bay 1	5943801	R
14	Alert Bay	Alert Bay 1A	5943802	R
14	Alert Bay	Dead Point 5	5943807	R
14	Alert Bay	Gwayasdums 1	5943808	R
14	Alert Bay	Hopetown 10A	5943809	R
14	Alert Bay	Karlukwees 1	5943810	R
14	Alert Bay	Quaee 7	5943813	R
14	Alert Bay	Apsagayu 1A	5943820	R

LA	Local Area Name	CSD NAME	SGC	CSD Type
14	Alert Bay	Compton Island 6	5943824	R
14	Alert Bay	Mahmalillikullah 1	5943828	R
15	Port Hardy	Port McNeill	5943012	T
15	Port Hardy	Port Alice	5943017	VL
15	Port Hardy	Port Hardy	5943023	DM
15	Port Hardy	Mount Waddington B	5943027	RDA
15	Port Hardy	Mount Waddington C	5943031	RDA
15	Port Hardy	Mount Waddington D	5943033	RDA
15	Port Hardy	Fort Rupert 1	5943804	R
15	Port Hardy	Quattishe 1	5943805	R
15	Port Hardy	Tsulquate 4	5943806	R
15	Port Hardy	Kippase 2	5943815	R
15	Port Hardy	Quatsino Subdivision 18	5943816	R
15	Port Hardy	Thomas Point 5	5943817	R
15	Port Hardy	Hope Island 1	5943836	R
15	Port Hardy	Glen-Gla-Ouch 5	5943832	R
16	Central Coast	Central Coast A	5945006	RDA
16	Central Coast	Central Coast C	5945010	RDA
16	Central Coast	Central Coast D	5945012	RDA
16	Central Coast	Central Coast E	5945014	RDA
16	Central Coast	Bella Bella 1	5945801	R
16	Central Coast	Bella Coola 1	5945802	R
16	Central Coast	Katit 1	5945803	R
17	Hope-Fraser Canyon	Hope	5909009	DM
17	Hope-Fraser Canyon	Fraser Valley A	5909014	RDA
17	Hope-Fraser Canyon	Fraser Valley B	5909016	RDA
17	Hope-Fraser Canyon	Aywawwis 15	5909801	R
17	Hope-Fraser Canyon	Boothroyd 5A	5909802	R
17	Hope-Fraser Canyon	Boothroyd 8A	5909803	R
17	Hope-Fraser Canyon	Chawathil 4	5909804	R
17	Hope-Fraser Canyon	Inkahtsaph 6	5909805	R
17	Hope-Fraser Canyon	Kopchitchin 2	5909806	R
17	Hope-Fraser Canyon	Ohamil 1	5909807	R
17	Hope-Fraser Canyon	Puckatholetchin 11	5909808	R
17	Hope-Fraser Canyon	Saddle Rock 9	5909809	R
17	Hope-Fraser Canyon	Lukseetsissum 9	5909810	R
17	Hope-Fraser Canyon	Ruby Creek 2	5909811	R
17	Hope-Fraser Canyon	Schkam 2	5909812	R
17	Hope-Fraser Canyon	Sho-ook 5	5909813	R
17	Hope-Fraser Canyon	Skawahlook 1	5909814	R
17	Hope-Fraser Canyon	Speyum 3	5909815	R
17	Hope-Fraser Canyon	Spuzzum 1	5909816	R
17	Hope-Fraser Canyon	Tuckkwiowhum 1	5909817	R

LA	Local Area Name	CSD NAME	SGC	CSD Type
17	Hope-Fraser Canyon	Yale Town 1	5909818	R
17	Hope-Fraser Canyon	Kahmoose 4	5909819	R
17	Hope-Fraser Canyon	Chaumox 11	5909820	R
17	Hope-Fraser Canyon	Boston Bar 1A	5909836	R
17	Hope-Fraser Canyon	Swahliseah 14	5909840	R
17	Hope-Fraser Canyon	Stullawheets 8	5909841	R
17	Hope-Fraser Canyon	Peters 1	5909843	R
17	Hope-Fraser Canyon	Bucktum 4	5909847	R
17	Hope-Fraser Canyon	Kuthlalth 3	5909870	R
17	Hope-Fraser Canyon	Albert Flat 5	5909876	R
18	Chilliwack	Chilliwack	5909020	C
18	Chilliwack	Fraser Valley D	5909034	RDA
18	Chilliwack	Fraser Valley E	5909036	RDA
18	Chilliwack	Kwawkwawapilt 6	5909821	R
18	Chilliwack	Skowkale 10	5909822	R
18	Chilliwack	Skowkale 11	5909823	R
18	Chilliwack	Skwah 4	5909824	R
18	Chilliwack	Skwali 3	5909825	R
18	Chilliwack	Skway 5	5909826	R
18	Chilliwack	Soowahlie 14	5909827	R
18	Chilliwack	Squiaala 7	5909828	R
18	Chilliwack	Squiaala 8	5909829	R
18	Chilliwack	Tzeachten 13	5909830	R
18	Chilliwack	Yakweakwioose 12	5909831	R
18	Chilliwack	Aitchelitch 9	5909835	R
18	Chilliwack	Cheam 1	5909837	R
18	Chilliwack	Schelowat 1	5909838	R
18	Chilliwack	Popkum 1	5909844	R
18	Chilliwack	Skwahla 2	5909849	R
19	Kent-Harrison	Harrison Hot Springs	5909027	VL
19	Kent-Harrison	Kent	5909032	DM
19	Kent-Harrison	Fraser Valley C	5909048	RDA
19	Kent-Harrison	Seabird Island	5909832	R
19	Kent-Harrison	Scowlitz 1	5909833	R
19	Kent-Harrison	Tseatah 2	5909834	R
19	Kent-Harrison	Chehalis 5	5909839	R
19	Kent-Harrison	Douglas 8	5909842	R
19	Kent-Harrison	Skookumchuck 4	5909845	R
19	Kent-Harrison	Franks 10	5909846	R
19	Kent-Harrison	Tipella 7	5909848	R
19	Kent-Harrison	Sachteen 2	5909855	R
19	Kent-Harrison	Sachteen 2A	5909860	R
19	Kent-Harrison	Samahquam 1	5909865	R

LA	Local Area Name	CSD NAME	SGC	CSD Type
19	Kent-Harrison	Baptiste Smith 1B	5909875	R
19	Kent-Harrison	Baptiste Smith 1A	5909852	R
20	Matsqui-Abbottsford	Abbotsford	5909052	C
20	Matsqui-Abbottsford	Fraser Valley H	5909064	RDA
20	Matsqui-Abbottsford	Upper Sumas 6	5909877	R
20	Matsqui-Abbottsford	Matsqui Main 2	5909878	R
21	Pitt Meadows-Maple Ridge	Pitt Meadows	5915070	DM
21	Pitt Meadows-Maple Ridge	Maple Ridge	5915075	DM
21	Pitt Meadows-Maple Ridge	Katzie 1	5915830	R
21	Pitt Meadows-Maple Ridge	Langley 5	5915835	R
21	Pitt Meadows-Maple Ridge	Whonnock 1	5915840	R
22	Mission	Mission	5909056	DM
22	Mission	Fraser Valley F	5909060	RDA
22	Mission	Fraser Valley G	5909062	RDA
22	Mission	Holachten 8	5909879	R
22	Mission	Lakahahmen 11	5909880	R
22	Mission	Skweahm 10	5909881	R
22	Mission	Squawkum Creek 3	5909882	R
23	Sunshine Coast	Gibsons	5929005	T
23	Sunshine Coast	Sechelt	5929011	DM
23	Sunshine Coast	Sunshine Coast A	5929018	RDA
23	Sunshine Coast	Sunshine Coast B	5929022	RDA
23	Sunshine Coast	Sunshine Coast D	5929024	RDA
23	Sunshine Coast	Sunshine Coast E	5929026	RDA
23	Sunshine Coast	Sunshine Coast F	5929028	RDA
23	Sunshine Coast	Chekwelp 26	5929801	R
23	Sunshine Coast	Chekwelp 26A	5929802	R
23	Sunshine Coast	Sechelt (Part)	5929803	IGD
23	Sunshine Coast	Schaltuuch 27	5929804	R
24	Squamish	Squamish	5931006	DM
24	Squamish	Pemberton	5931012	VL
24	Squamish	Squamish-Lillooet C	5931017	RDA
24	Squamish	Whistler	5931020	DM
24	Squamish	Squamish-Lillooet D	5931021	RDA
24	Squamish	Cheakamus 11	5931801	R
24	Squamish	Kowtain 17	5931802	R
24	Squamish	Mount Currie 1	5931803	R
24	Squamish	Mount Currie 10	5931804	R
24	Squamish	Nequatque 1	5931805	R
24	Squamish	Seaichem 16	5931806	R
24	Squamish	Stawamus 24	5931807	R
24	Squamish	Waiwakum 14	5931808	R
24	Squamish	Yekwaupsum 18	5931809	R

LA	Local Area Name	CSD NAME	SGC	CSD Type
24	Squamish	Nequatque 3A	5931810	R
24	Squamish	Mount Currie 2	5931811	R
24	Squamish	Nesuch 3	5931812	R
24	Squamish	Mount Currie 8	5931837	R
24	Squamish	Mount Currie 6	5931838	R
24	Squamish	Nequatque 2	5931840	R
25	Lillooet	Lillooet	5931026	DM
25	Lillooet	Squamish-Lillooet A	5931032	RDA
25	Lillooet	Squamish-Lillooet B	5931034	RDA
25	Lillooet	Bridge River 1	5931813	R
25	Lillooet	Cayoosh Creek 1	5931814	R
25	Lillooet	Chilhil 6	5931815	R
25	Lillooet	Fountain 1	5931816	R
25	Lillooet	Fountain 3	5931817	R
25	Lillooet	Fountain 10	5931818	R
25	Lillooet	Fountain 11	5931819	R
25	Lillooet	Fountain 12	5931820	R
25	Lillooet	Lillooet 1	5931821	R
25	Lillooet	Fountain Creek 8	5931822	R
25	Lillooet	McCartney's Flat 4	5931823	R
25	Lillooet	Seton Lake 5	5931824	R
25	Lillooet	Necait 6	5931826	R
25	Lillooet	Nesikep 6	5931827	R
25	Lillooet	Pashilqua 2	5931828	R
25	Lillooet	Pavilion 1	5931829	R
25	Lillooet	Seton Lake 5A	5931830	R
25	Lillooet	Slosh 1	5931831	R
25	Lillooet	Towinock 2	5931832	R
25	Lillooet	Mission 5	5931833	R
25	Lillooet	Slosh 1A	5931839	R
26	Princeton	Princeton	5907024	T
26	Princeton	Okanagan-Similkameen H	5907055	RDA
27	Oliver-Osoyoos	Osoyoos	5907005	T
27	Oliver-Osoyoos	Keremeos	5907009	VL
27	Oliver-Osoyoos	Oliver	5907014	T
27	Oliver-Osoyoos	Okanagan-Similkameen A	5907022	RDA
27	Oliver-Osoyoos	Okanagan-Similkameen B	5907026	RDA
27	Oliver-Osoyoos	Okanagan-Similkameen C	5907028	RDA
27	Oliver-Osoyoos	Okanagan-Similkameen G	5907053	RDA
27	Oliver-Osoyoos	Lower Similkameen 2	5907801	R
27	Oliver-Osoyoos	Osoyoos 1	5907802	R
27	Oliver-Osoyoos	Chopaka 7 & 8	5907805	R
27	Oliver-Osoyoos	Blind Creek 6	5907806	R

LA	Local Area Name	CSD NAME	SGC	CSD Type
27	Oliver-Osoyoos	Chuchuwayha 2	5907807	R
27	Oliver-Osoyoos	Alexis 9	5907808	R
27	Oliver-Osoyoos	Ashnola 10	5907809	R
28	Penticton	Summerland	5907035	DM
28	Penticton	Penticton	5907041	C
28	Penticton	Okanagan-Similkameen D	5907047	RDA
28	Penticton	Okanagan-Similkameen E	5907049	RDA
28	Penticton	Okanagan-Similkameen F	5907051	RDA
28	Penticton	Penticton 1	5907803	R
29	Ashcroft	Lytton	5933015	VL
29	Ashcroft	Ashcroft	5933019	VL
29	Ashcroft	Cache Creek	5933024	VL
29	Ashcroft	Clinton	5933028	VL
29	Ashcroft	Thompson-Nicola E	5933032	RDA
29	Ashcroft	Thompson-Nicola I	5933037	RDA
29	Ashcroft	Bonaparte 3	5933812	R
29	Ashcroft	Canoe Creek 1	5933814	R
29	Ashcroft	Halhalaeden 14A	5933815	R
29	Ashcroft	Chuchhriaschin 5	5933816	R
29	Ashcroft	Halhalaeden 14	5933818	R
29	Ashcroft	High Bar 1	5933819	R
29	Ashcroft	Inkluckcheen 21	5933820	R
29	Ashcroft	Canoe Creek 2	5933821	R
29	Ashcroft	Chuchhriaschin 5A	5933822	R
29	Ashcroft	Kitzowit 20	5933823	R
29	Ashcroft	Skuppah 2A	5933824	R
29	Ashcroft	Inklyuhkinatko 2	5933825	R
29	Ashcroft	Kanaka Bar 1A	5933826	R
29	Ashcroft	Kanaka Bar 2	5933827	R
29	Ashcroft	Basque 18	5933828	R
29	Ashcroft	Klahkamich 17	5933829	R
29	Ashcroft	Klahkowit 5	5933830	R
29	Ashcroft	Kleetlekut 22	5933831	R
29	Ashcroft	Klickkumcheen 18	5933832	R
29	Ashcroft	Kumcheen 1	5933834	R
29	Ashcroft	Leon Creek 2	5933835	R
29	Ashcroft	Lower Hat Creek 2	5933836	R
29	Ashcroft	Lytton 4A	5933839	R
29	Ashcroft	Lytton 4E	5933840	R
29	Ashcroft	Lytton 9A	5933841	R
29	Ashcroft	Lytton 9B	5933842	R
29	Ashcroft	Ashcroft 4	5933844	R
29	Ashcroft	105 Mile Post 2	5933845	R

LA	Local Area Name	CSD NAME	SGC	CSD Type
29	Ashcroft	Oregon Jack Creek 5	5933846	R
29	Ashcroft	Nickel Palm 4	5933848	R
29	Ashcroft	Nickeyeah 25	5933850	R
29	Ashcroft	Nicomen 1	5933851	R
29	Ashcroft	Nohomeen 23	5933852	R
29	Ashcroft	Nuuautin 2	5933853	R
29	Ashcroft	Oregon Jack Creek 3	5933854	R
29	Ashcroft	Papyum 27	5933855	R
29	Ashcroft	Papyum 27A	5933856	R
29	Ashcroft	Pemynoos 9	5933857	R
29	Ashcroft	Seah 5	5933858	R
29	Ashcroft	Shackan 11	5933859	R
29	Ashcroft	Siska Flat 3	5933860	R
29	Ashcroft	Kloklowuck 7	5933861	R
29	Ashcroft	Siska Flat 5A	5933862	R
29	Ashcroft	Siska Flat 5B	5933863	R
29	Ashcroft	Siska Flat 8	5933864	R
29	Ashcroft	Skuppah 4	5933865	R
29	Ashcroft	Skwayaynope 26	5933866	R
29	Ashcroft	Spences Bridge 4	5933867	R
29	Ashcroft	Spintlum Flat 3	5933868	R
29	Ashcroft	Staiyahanny 8	5933869	R
29	Ashcroft	Nkaih 10	5933870	R
29	Ashcroft	Spences Bridge 4C	5933871	R
29	Ashcroft	Marble Canyon 3	5933872	R
29	Ashcroft	Stryen 9	5933873	R
29	Ashcroft	Tsaukan 12	5933874	R
29	Ashcroft	Upper Hat Creek 1	5933875	R
29	Ashcroft	Upper Nepa 6	5933876	R
29	Ashcroft	Yawaucht 11	5933878	R
29	Ashcroft	Zacht 5	5933879	R
29	Ashcroft	Cameron Bar 13	5933890	R
30	Merritt	Merritt	5933006	C
30	Merritt	Thompson-Nicola M	5933008	RDA
30	Merritt	Thompson-Nicola N	5933012	RDA
30	Merritt	Coldwater 1	5933801	R
30	Merritt	Douglas Lake 3	5933802	R
30	Merritt	Hamilton Creek 2	5933803	R
30	Merritt	Hamilton Creek 7	5933804	R
30	Merritt	Joeyaska 2	5933805	R
30	Merritt	Nicola Lake 1	5933806	R
30	Merritt	Nicola Mameet 1	5933807	R
30	Merritt	Nooaitch 10	5933808	R

LA	Local Area Name	CSD NAME	SGC	CSD Type
30	Merritt	Paul's Basin 2	5933809	R
30	Merritt	Zoht 4	5933811	R
31	Kamloops	Logan Lake	5933035	DM
31	Kamloops	Thompson-Nicola J	5933039	RDA
31	Kamloops	Kamloops	5933042	C
31	Kamloops	Thompson-Nicola P	5933044	RDA
31	Kamloops	Chase	5933054	VL
31	Kamloops	Thompson-Nicola L	5933060	RDA
31	Kamloops	Skeetchestn	5933817	R
31	Kamloops	Spatsum 11	5933847	R
31	Kamloops	Kamloops 1	5933880	R
31	Kamloops	Neskonlith 1 (Neskainlith 1)	5933883	R
31	Kamloops	Sahhaltkum 4	5933884	R
31	Kamloops	Neskonlith 2	5933885	R
32	North Thompson	Thompson-Nicola A	5933068	RDA
32	North Thompson	Thompson-Nicola B	5933070	RDA
32	North Thompson	Thompson-Nicola O	5933072	RDA
32	North Thompson	Whispering Pines 4	5933877	R
32	North Thompson	Nekalliston 2	5933886	R
32	North Thompson	North Thompson 1	5933887	R
32	North Thompson	Louis Creek 4	5933888	R
32	North Thompson	Squaam 2	5933889	R
33	Peachland	Peachland	5935018	DM
33	Peachland	Central Okanagan G	5935025	RDA
33	Peachland	Central Okanagan H	5935027	RDA
33	Peachland	Tsinstikeptum 9	5935802	R
33	Peachland	Tsinstikeptum 10	5935803	R
34	Kelowna	Kelowna	5935010	C
34	Kelowna	Central Okanagan I	5935012	RDA
34	Kelowna	Lake Country	5935016	DM
34	Kelowna	Duck Lake 7	5935801	R
35	Vernon	Lumby	5937005	VL
35	Vernon	Coldstream	5937010	DM
35	Vernon	Vernon	5937014	C
35	Vernon	North Okanagan B	5937017	RDA
35	Vernon	North Okanagan C	5937021	RDA
35	Vernon	North Okanagan D	5937022	RDA
35	Vernon	North Okanagan E	5937023	RDA
35	Vernon	Okanagan (Part) 1	5937801	R
35	Vernon	Priest's Valley 6	5937803	R
36	Spallumcheen	Spallumcheen	5937024	DM
36	Spallumcheen	Armstrong	5937028	C
36	Spallumcheen	Enderby	5937033	C

LA	Local Area Name	CSD NAME	SGC	CSD Type
36	Spallumcheen	North Okanagan F	5937041	RDA
36	Spallumcheen	Enderby 2	5937802	R
36	Spallumcheen	Harris 3	5937805	R
37	Salmon Arm	Salmon Arm	5939032	DM
37	Salmon Arm	Columbia-Shuswap C	5939037	RDA
37	Salmon Arm	Columbia-Shuswap D	5939039	RDA
37	Salmon Arm	Columbia-Shuswap E	5939043	RDA
37	Salmon Arm	Columbia-Shuswap F	5939044	RDA
37	Salmon Arm	Sicamous	5939045	DM
37	Salmon Arm	Chum Creek 2	5939801	R
37	Salmon Arm	Hustalen 1	5939802	R
37	Salmon Arm	North Bay 5	5939803	R
37	Salmon Arm	Okanagan (Part) 1	5939804	R
37	Salmon Arm	Quaaout 1	5939805	R
37	Salmon Arm	Salmon River 1	5939806	R
37	Salmon Arm	Scotch Creek 4	5939807	R
37	Salmon Arm	Switsemalph 3	5939808	R
37	Salmon Arm	Switsemalph 6	5939809	R
37	Salmon Arm	Switsemalph 7	5939810	R
38	Golden	Golden	5939007	T
38	Golden	Columbia-Shuswap A	5939011	RDA
39	Revelstoke	Revelstoke	5939019	C
39	Revelstoke	Columbia-Shuswap B	5939023	RDA
40	Fernie	Elkford	5901003	DM
40	Fernie	Sparwood	5901006	DM
40	Fernie	Fernie	5901012	C
40	Fernie	East Kootenay A	5901017	RDA
40	Fernie	East Kootenay B	5901019	RDA
40	Fernie	Tobacco Plains 2	5901801	R
41	Cranbrook-Kimberley	Cranbrook	5901022	C
41	Cranbrook-Kimberley	Kimberley	5901028	C
41	Cranbrook-Kimberley	East Kootenay C	5901035	RDA
41	Cranbrook-Kimberley	East Kootenay E	5901037	RDA
41	Cranbrook-Kimberley	Isidore's Ranch 4	5901802	R
41	Cranbrook-Kimberley	Kootenay 1	5901803	R
41	Cranbrook-Kimberley	Cassimayooks (Mayook) 5	5901805	R
41	Cranbrook-Kimberley	Bummers Flat 6	5901807	R
42	Invermere	Invermere	5901039	DM
42	Invermere	Radium Hot Springs	5901040	VL
42	Invermere	East Kootenay F	5901046	RDA
42	Invermere	East Kootenay G	5901048	RDA
42	Invermere	Columbia Lake 3	5901804	R

LA	Local Area Name	CSD NAME	SGC	CSD Type
42	Invermere	Shuswap	5901806	R
43	Castlegar-Arrow Lakes	Castlegar	5903045	C
43	Castlegar-Arrow Lakes	Nakusp	5903050	VL
43	Castlegar-Arrow Lakes	Central Kootenay I	5903056	RDA
43	Castlegar-Arrow Lakes	Central Kootenay J	5903058	RDA
43	Castlegar-Arrow Lakes	Central Kootenay K	5903060	RDA
44	Nelson	Salmo	5903011	VL
44	Nelson	Nelson	5903015	C
44	Nelson	Slocan	5903019	VL
44	Nelson	Kaslo	5903023	VL
44	Nelson	Silverton	5903027	VL
44	Nelson	New Denver	5903032	VL
44	Nelson	Central Kootenay D	5903039	RDA
44	Nelson	Central Kootenay E	5903041	RDA
44	Nelson	Central Kootenay F	5903043	RDA
44	Nelson	Central Kootenay G	5903047	RDA
44	Nelson	Central Kootenay H	5903052	RDA
45	Creston	Creston	5903004	T
45	Creston	Central Kootenay A	5903010	RDA
45	Creston	Central Kootenay B	5903013	RDA
45	Creston	Central Kootenay C	5903017	RDA
45	Creston	Creston 1	5903807	R
46	Grand Forks-Greenwood	Grand Forks	5905032	C
46	Grand Forks-Greenwood	Midway	5905037	VL
46	Grand Forks-Greenwood	Greenwood	5905042	C
46	Grand Forks-Greenwood	Kootenay Boundary C	5905050	RDA
46	Grand Forks-Greenwood	Kootenay Boundary D	5905052	RDA
46	Grand Forks-Greenwood	Kootenay Boundary E	5905054	RDA
47	Trail-Rossland	Fruitvale	5905005	VL
47	Trail-Rossland	Montrose	5905009	VL
47	Trail-Rossland	Trail	5905014	C
47	Trail-Rossland	Warfield	5905018	VL
47	Trail-Rossland	Rossland	5905023	C
47	Trail-Rossland	Kootenay Boundary A	5905026	RDA
47	Trail-Rossland	Kootenay Boundary B	5905030	RDA
48	Williams Lake	One Hundred Mile House	5941005	DM
48	Williams Lake	Williams Lake	5941009	C
48	Williams Lake	Cariboo D	5941010	RDA
48	Williams Lake	Cariboo E	5941012	RDA
48	Williams Lake	Cariboo F	5941014	RDA
48	Williams Lake	Cariboo G	5941015	RDA
48	Williams Lake	Cariboo H	5941016	RDA
48	Williams Lake	Cariboo L	5941017	RDA

LA	Local Area Name	CSD NAME	SGC	CSD Type
48	Williams Lake	Cariboo J	5941039	RDA
48	Williams Lake	Cariboo K	5941041	RDA
48	Williams Lake	Alkali Lake 1	5941801	R
48	Williams Lake	Canim Lake 1	5941802	R
48	Williams Lake	Canim Lake 4	5941803	R
48	Williams Lake	Canoe Creek 3	5941804	R
48	Williams Lake	Deep Creek 2	5941805	R
48	Williams Lake	Dog Creek 1	5941806	R
48	Williams Lake	Dog Creek 2	5941807	R
48	Williams Lake	Lohbiee 3	5941808	R
48	Williams Lake	Soda Creek 1	5941810	R
48	Williams Lake	Johny Sticks 2	5941811	R
48	Williams Lake	Williams Lake 1	5941812	R
48	Williams Lake	Canim Lake 2	5941813	R
48	Williams Lake	Alexis Creek 14	5941817	R
48	Williams Lake	Alexis Creek 16	5941818	R
48	Williams Lake	Alexis Creek 24	5941819	R
48	Williams Lake	Alexis Creek 25	5941820	R
48	Williams Lake	Anahim's Flat 1	5941821	R
48	Williams Lake	Anahim's Meadow 2	5941822	R
48	Williams Lake	Anahim's Meadow 2A	5941823	R
48	Williams Lake	Andy Cahoose Meadow 16	5941824	R
48	Williams Lake	Cahoose 8	5941826	R
48	Williams Lake	Charley Boy's Meadow 3	5941827	R
48	Williams Lake	Chilco Lake 1	5941828	R
48	Williams Lake	Chilco Lake 1A	5941829	R
48	Williams Lake	Garden 2	5941830	R
48	Williams Lake	Tanakut 4	5941831	R
48	Williams Lake	Garden 2A	5941832	R
48	Williams Lake	Louis Squinas Ranch 14	5941834	R
48	Williams Lake	Puntzi Lake 2	5941838	R
48	Williams Lake	Redstone Flat 1	5941839	R
48	Williams Lake	Squinas 2	5941840	R
48	Williams Lake	Stone 1	5941841	R
48	Williams Lake	Alexis Creek 17	5941842	R
48	Williams Lake	Seymour Meadows 19	5941843	R
48	Williams Lake	Agats Meadow 8	5941844	R
48	Williams Lake	Thomas Squinas Ranch 2A	5941845	R
48	Williams Lake	Toby's Meadow 4	5941846	R
48	Williams Lake	Alexis Creek 6	5941847	R
48	Williams Lake	Alexis Creek 21	5941848	R
48	Williams Lake	Baptiste Meadow 2	5941849	R
48	Williams Lake	Toosey 1	5941850	R

LA	Local Area Name	CSD NAME	SGC	CSD Type
48	Williams Lake	Towdystan Lake 3	5941851	R
48	Williams Lake	Tsunnia Lake 5	5941853	R
48	Williams Lake	Ulkatcho 13	5941854	R
48	Williams Lake	Windy Mouth 7	5941855	R
48	Williams Lake	Alexis Creek 34	5941856	R
48	Williams Lake	Casimiel Meadows 15A	5941857	R
48	Williams Lake	Cahoose 10	5941858	R
48	Williams Lake	Blackwater Meadow 11	5941859	R
48	Williams Lake	Cahoose 12	5941860	R
48	Williams Lake	Betty Creek 18	5941861	R
48	Williams Lake	Salmon River Meadow 7	5941862	R
48	Williams Lake	Tzetzi Lake 11	5941863	R
48	Williams Lake	Sandy Harry 4	5941868	R
48	Williams Lake	Fishtrap 19	5941871	R
48	Williams Lake	Swan Lake 3	5941872	R
48	Williams Lake	Alkali Lake 4A	5941873	R
48	Williams Lake	Little Springs 8	5941874	R
48	Williams Lake	Little Springs 18	5941875	R
49	Quesnel	Quesnel	5941013	C
49	Quesnel	Cariboo A	5941019	RDA
49	Quesnel	Cariboo B	5941021	RDA
49	Quesnel	Wells	5941025	DM
49	Quesnel	Cariboo C	5941026	RDA
49	Quesnel	Cariboo I	5941027	RDA
49	Quesnel	Quesnel 1	5941809	R
49	Quesnel	Alexandria 3A	5941814	R
49	Quesnel	Alexandria 1	5941815	R
49	Quesnel	Alexandria 3	5941816	R
49	Quesnel	Baezaeko River 25	5941825	R
49	Quesnel	Kluskus 1	5941833	R
49	Quesnel	Coglistiko River 29	5941835	R
49	Quesnel	Baezaeko River 26	5941836	R
49	Quesnel	Nazco 20	5941837	R
49	Quesnel	Trout Lake Alec 16	5941852	R
49	Quesnel	Sundayman's Meadow 3	5941864	R
49	Quesnel	Tatelkus Lake 28	5941865	R
49	Quesnel	Euchinico Creek 17	5941866	R
49	Quesnel	Kushya Creek 7	5941867	R
49	Quesnel	Alexandria 1A	5941870	R
50	Prince George	Prince George	5953023	C
50	Prince George	Mackenzie	5953033	DM
50	Prince George	Fraser-Fort George A	5953038	RDA

LA	Local Area Name	CSD NAME	SGC	CSD Type
50	Prince George	Fraser-Fort George C	5953042	RDA
50	Prince George	Fraser-Fort George D	5953044	RDA
50	Prince George	Fraser-Fort George E	5953046	RDA
50	Prince George	Fraser-Fort George F	5953048	RDA
50	Prince George	Fraser-Fort George G	5953050	RDA
50	Prince George	Fort George (Shelley) 2	5953801	R
50	Prince George	McLeod Lake 1	5953802	R
50	Prince George	Parsnip 5	5953804	R
51	McBride-Valemount	Valemount	5953007	VL
51	McBride-Valemount	McBride	5953012	VL
51	McBride-Valemount	Fraser-Fort George H	5953019	RDA
52	Queen Charlotte Islands	Masset	5947023	VL
52	Queen Charlotte Islands	Skeena-Queen Charlotte F	5947025	RDA
52	Queen Charlotte Islands	Skeena-Queen Charlotte D	5947027	RDA
52	Queen Charlotte Islands	Port Clements	5947030	VL
52	Queen Charlotte Islands	Skeena-Queen Charlotte E	5947032	RDA
52	Queen Charlotte Islands	Masset 1	5947803	R
52	Queen Charlotte Islands	Skidegate 1	5947804	R
53	Prince Rupert	Port Edward	5947007	DM
53	Prince Rupert	Prince Rupert	5947012	C
53	Prince Rupert	Skeena-Queen Charlotte A	5947016	RDA
53	Prince Rupert	Skeena-Queen Charlotte C	5947021	RDA
53	Prince Rupert	Dolphin Island 1	5947807	R
53	Prince Rupert	Lax Kw'alaams	5947809	R
53	Prince Rupert	Kulkayu (Hartley Bay) 4	5947806	R
54	Kitimat-Terrace	Kitimat	5949005	DM
54	Kitimat-Terrace	Terrace	5949011	C
54	Kitimat-Terrace	Kitimat-Stikine C (Part 1)	5949013	RDA
54	Kitimat-Terrace	Kitimat-Stikine E	5949018	RDA
54	Kitimat-Terrace	Kitimat-Stikine C (Part 2)	5949020	RDA
54	Kitimat-Terrace	Kitsumkaylum 1	5949804	R
54	Kitimat-Terrace	Kshish 4	5949805	R
54	Kitimat-Terrace	Kulspai 6	5949807	R
54	Kitimat-Terrace	Kitasoo 1	5949802	R
54	Kitimat-Terrace	Kitamaat 2	5949803	R
55	Hazelton	Hazelton	5949022	VL
55	Hazelton	New Hazelton	5949024	DM
55	Hazelton	Kitimat-Stikine B	5949028	RDA
55	Hazelton	Coryatsaqua (Moricetown) 2	5949810	R
55	Hazelton	Hagwilget 1	5949811	R
55	Hazelton	Gitanmaax 1	5949812	R
55	Hazelton	Kispiox 1	5949813	R
55	Hazelton	Gitsegukla 1	5949814	R

LA	Local Area Name	CSD NAME	SGC	CSD Type
55	Hazelton	Gitanyow 1	5949815	R
55	Hazelton	Gitwangak 1	5949816	R
55	Hazelton	Moricetown 1	5949817	R
55	Hazelton	Sik-e-dakh 2	5949818	R
55	Hazelton	Babine 17	5949819	R
55	Hazelton	Bulkley River 19	5949820	R
56	Stewart	Stewart	5949032	DM
56	Stewart	Nisga'a	5949035	NL
56	Stewart	Kitimat-Stikine A	5949039	RDA
56	Stewart	Kitimat-Stikine D	5949041	RDA
56	Stewart	Telegraph Creek 6	5949826	R
56	Stewart	Telegraph Creek 6A	5949827	R
56	Stewart	Kluachon Lake 1	5949830	R
56	Stewart	Gitzault 24	5949831	R
56	Stewart	Iskut 6	5949832	R
56	Stewart	New Aiyansh	5949834	NVL
56	Stewart	Aiyansh (Kitladamas) 1	5949836	NVL
56	Stewart	Gitwinksihlkw	5949838	NVL
56	Stewart	Laxgalts'ap	5949840	NVL
56	Stewart	Gingolx	5949842	NVL
56	Stewart	Guhthe Tah 12	5949843	R
57	Smithers-Houston	Granisle	5951032	VL
57	Smithers-Houston	Houston	5951034	DM
57	Smithers-Houston	Telkwa	5951038	VL
57	Smithers-Houston	Smithers	5951043	T
57	Smithers-Houston	Bulkley-Nechako A	5951051	RDA
57	Smithers-Houston	Bulkley-Nechako G	5951053	RDA
57	Smithers-Houston	Babine 6	5951828	R
57	Smithers-Houston	Babine 25	5951829	R
57	Smithers-Houston	Jean Baptiste 28	5951830	R
58	Burns Lake	Burns Lake	5951022	VL
58	Burns Lake	Bulkley-Nechako B	5951028	RDA
58	Burns Lake	Bulkley-Nechako E	5951031	RDA
58	Burns Lake	Burns Lake 18	5951815	R
58	Burns Lake	Cheslatta 1	5951818	R
58	Burns Lake	Omineca 1	5951819	R
58	Burns Lake	Palling 1	5951820	R
58	Burns Lake	Duncan Lake 2	5951821	R
58	Burns Lake	Francois Lake 7	5951822	R
58	Burns Lake	Skins Lake 16A	5951823	R
58	Burns Lake	Skins Lake 16B	5951824	R
58	Burns Lake	Tatla West 11	5951825	R
58	Burns Lake	Uncha Lake 13A	5951826	R

LA	Local Area Name	CSD NAME	SGC	CSD Type
58	Burns Lake	Woyenne 27	5951827	R
58	Burns Lake	Tatla't East 2	5951833	R
58	Burns Lake	Isaac (Gale Lake) 8	5951835	R
58	Burns Lake	Maxan Lake 4	5951837	R
59	Vanderhoof	Vanderhoof	5951007	DM
59	Vanderhoof	Fraser Lake	5951009	VL
59	Vanderhoof	Fort St. James	5951013	DM
59	Vanderhoof	Bulkley-Nechako C	5951015	RDA
59	Vanderhoof	Bulkley-Nechako D	5951017	RDA
59	Vanderhoof	Bulkley-Nechako F	5951019	RDA
59	Vanderhoof	Ye Koo Che 3	5951801	R
59	Vanderhoof	Nautley (Fort Fraser) 1	5951802	R
59	Vanderhoof	Nak'azdli (Necoslie 1)	5951803	R
59	Vanderhoof	Sowchea 3	5951804	R
59	Vanderhoof	Binche 2 (Pinchie 2)	5951805	R
59	Vanderhoof	Seaspunkut 4	5951806	R
59	Vanderhoof	Stellaquo (Stella) 1	5951807	R
59	Vanderhoof	Tsay Cho 4	5951808	R
59	Vanderhoof	Stony Creek 1	5951809	R
59	Vanderhoof	Tache 1	5951810	R
59	Vanderhoof	Tacla Lake (Ferry Landing) 9	5951811	R
59	Vanderhoof	North Tacla Lake 7	5951812	R
59	Vanderhoof	Laketown 3	5951813	R
59	Vanderhoof	Dzitline Lee 9	5951814	R
59	Vanderhoof	Kuz Che 5	5951816	R
59	Vanderhoof	Bihl' k'a 18	5951817	R
59	Vanderhoof	Williams Prairie Meadow 1A	5951840	R
59	Vanderhoof	North Tacla Lake 7A	5951841	R
59	Vanderhoof	Bihlk'a 6	5951842	R
60	Stikine	Stikine Region	5957022	RDA
60	Stikine	Dease Lake 9	5957801	R
60	Stikine	Unnamed 10	5957802	R
60	Stikine	Five Mile Point 3	5957803	R
60	Stikine	Good Hope Lake	5957804	S-E
60	Stikine	Tahltan 1	5957805	R
60	Stikine	Lower Post	5957813	S-E
60	Stikine	Liard River 3	5957814	R
61	Dawson Creek	Tumbler Ridge	5955003	DM
61	Dawson Creek	Pouce Coupe	5955005	VL
61	Dawson Creek	Chetwynd	5955010	DM
61	Dawson Creek	Dawson Creek	5955014	C
61	Dawson Creek	Peace River D	5955021	RDA
61	Dawson Creek	Peace River E	5955023	RDA

LA	Local Area Name	CSD NAME	SGC	CSD Type
61	Dawson Creek	East Moberly Lake 169	5955801	R
61	Dawson Creek	West Moberly Lake 168A	5955802	R
62	Fort St.John	Hudson's Hope	5955025	DM
62	Fort St.John	Taylor	5955030	DM
62	Fort St.John	Fort St. John	5955034	C
62	Fort St.John	Peace River B	5955040	RDA
62	Fort St.John	Peace River C	5955042	RDA
62	Fort St.John	Blueberry River 205	5955803	R
62	Fort St.John	Doig River 206	5955804	R
62	Fort St.John	Fort Ware 1	5955807	R
62	Fort St.John	Halfway River 168	5955808	R
62	Fort St.John	Ingenika Point	5955812	S-E
63	Ft. Nelson	Fort Nelson	5959005	T
63	Ft. Nelson	Northern Rockies A	5959011	RDA
63	Ft. Nelson	Northern Rockies B	5959013	RDA
63	Ft. Nelson	Fontas 1	5959805	R
63	Ft. Nelson	Fort Nelson 2	5959806	R
63	Ft. Nelson	Kahntah 3	5959809	R
63	Ft. Nelson	Prophet River 4	5959810	R

Appendix F - Local Area Map and Names

VANCOUVER ISLAND/COAST
1 Gulf Islands
2 Victoria
3 Sooke-Port Renfrew
4 Duncan
5 Lake Cowichan
6 Ladysmith
7 Nanaimo
8 Parksville-Qualicum
9 Alberni
10 Courtenay-Comox
11 Campbell River
12 Bute Inlet
13 Powell River
14 Alert Bay
15 Port Hardy
16 Central Coast

MAINLAND/SOUTHWEST (Excluding GVRD)
17 Hope-Fraser Canyon
18 Chilliwack
19 Kent-Harrison
20 Matsqui-Abbottsford
21 Pitt Meadows-Maple Ridge
22 Mission
23 Sunshine Coast
24 Squamish
25 Lillooet

THOMPSON-OKANAGAN
26 Princeton
27 Oliver-Osoyoos
28 Penticton
29 Ashcroft
30 Merritt
31 Kamloops
32 North Thompson
33 Peachland
34 Kelowna
35 Vernon
36 Spallumcheen
37 Salmon Arm
38 Golden
39 Revelstoke

KOOTENAY
40 Fernie
41 Cranbrook-Kimberley
42 Invermere
43 Castlegar-Arrow Lakes
44 Nelson
45 Creston
46 Grand Forks-Greenwood
47 Trail-Rossland

CARIBOO
48 Williams Lake
49 Quesnel
50 Prince George
51 McBride-Valemount

NORTH COAST
52 Queen Charlotte Island
53 Prince Rupert
54 Kitimat-Terrace
55 Hazelton
56 Stewart

NECHAKO
57 Smithers-Houston
58 Burns Lake
59 Vanderhoof
60 Stikine

NORTHEAST
61 Dawson Creek
62 Fort St. John
63 Ft. Nelson